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SITE ASSESSMENT REPORT ADDENDUM FOR JET FUEL PIPELINE NAS CECIL FIELD FL
4/1/2004
TETRA TECH

**Site Assessment Report
Addendum
for
Jet Fuel Pipeline**

**Naval Air Station Cecil Field
Jacksonville, Florida**



**Southern Division
Naval Facilities Engineering Command
Contract Number N62467-94-D-0888
Contract Task Order 0072**

April 2004

**SITE ASSESSMENT REPORT
ADDENDUM
FOR
JET FUEL PIPELINE**

**NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

**COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

**Submitted to:
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CONTRACT TASK ORDER 0072**

APRIL 2004

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PROFESSIONAL REVIEW CERTIFICATION

This Site Assessment Report was prepared under the direct supervision of the undersigned geologist using geologic and hydrogeologic principles standard to the profession at the time the report was prepared. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of additional information on the assessment described in this report. This Site Assessment Report was developed specifically for sites CF-AN05, CF-AN14, CF-AN16, CF-TH03, and CF-VA02, as defined in the text of this report, and should not be construed to apply to any other site.

Paul E. Calligan
Florida Professional Geologist
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ACRONYMS

bls	Below Land Surface
BRAC	Base Realignment and Closure
BTEX	Benzene, Toluene, Ethylbenzene, and Total Xylenes
COCs	Contaminants of Concern
COJ	City of Jacksonville
CompQAP	Comprehensive Quality Assurance Plan
CTO	Contract Task Order
DPT	Direct-Push Technology
ENCO	Environmental Conservation Laboratories, Inc.
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FID	Flame Ionization Detector
FDOT	Florida Department of Transportation
FL-PRO	Florida Petroleum Range Organics
ft	Feet or Foot
GAG	Gasoline Analytical Group
GCTLs	Groundwater Cleanup Target Levels
KAG	Kerosene Analytical Group
µg/kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
mg/kg	Milligrams per Kilogram
MTBE	Methyl-Tert-Butyl Ether
NAS	Naval Air Station
NAVFAC EFD SOUTH	Southern Division, Naval Facilities Engineering Command
Navy	United States Navy
NFA	No Further Action
OVA	Organic Vapor Analyzer
PAH	Polynuclear Aromatic Hydrocarbons
ppm	Parts per Million
PVC	Polyvinyl Chloride
RAC	Remedial Action Contractor
ROW	Right-of-Way
SA	Site Assessment
SAR	Site Assessment Report
SARA	Site Assessment Report Addendum

ACRONYMS (Continued)

SCTLs	Soil Cleanup Target Levels
TPH	Total Petroleum Hydrocarbons
TRPH	Total Recoverable Petroleum Hydrocarbons
TtNUS	Tetra Tech NUS, Inc.
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

Tetra Tech NUS, Inc. (TtNUS) has completed a supplemental Site Assessment (SA) at various sites associated with the Jet Fuel Pipeline from Naval Air Station (NAS) Cecil Field to NAS Jacksonville in Jacksonville, Florida. The supplemental site assessment activities were conducted in response to comments issued by the Florida Department of Environmental Protection (FDEP), after reviewing the Site Assessment Report (SAR). The FDEP comment letter requested that additional assessment be conducted at sites CF-AN05, CF-AN16, CF-TH03, and CF-VA02. In addition, the FDEP letter requested clarification of data reported in the SAR for Site AN14.

Sites CF-AN05 and CF-AN16:

The FDEP comment letter indicated that additional assessment was required at pipeline anomalies CF-AN05 and CF-AN16. To accomplish this, the following tasks were performed:

- Obtained a Florida Department of Transportation (FDOT) right-of-way (ROW) permit to conduct the work in the roadway at the anomalies.
- Advanced four soil borings at AN05 and five soil borings at AN16 using stainless hand augers and a direct-push testing (DPT) rig; and screened the soils above the water table with an organic vapor analyzer (OVA) equipped with a flame ionization detector (FID).
- Based on the OVA-FID results, one soil sample was collected from each soil boring for on-site mobile laboratory analysis. Each soil sample was collected from the interval (above the water table) that displayed the highest net OVA-FID reading. A groundwater sample was also collected at each soil boring location for on-site mobile laboratory analysis.
- Based on the OVA-FID results, one soil sample was collected from each site for fixed-base laboratory analysis at an off-site laboratory for constituents of the Gasoline Analytical Group (GAG)/Kerosene Analytical Group (KAG).
- One temporary micro well was installed at each site using a DPT rig and a groundwater sample was collected for fixed-base laboratory analysis for constituents of the GAG/KAG.

Excessively contaminated soil, as defined by Rule 62-770.200(12), of the Florida Administrative Code (FAC), was not identified during field screening procedures. The fixed-base laboratory analytical results indicated that two COCs were detected at each anomaly. The concentrations were below their respective Soil Cleanup Target Levels (SCTLs).

The fixed-base laboratory analytical results for the groundwater samples collected from each site indicated that several COCs were detected at concentrations below the respective Groundwater Cleanup Target Levels (GCTLs). Free product was not encountered in any of the soil borings installed during the supplemental assessment.

Based on the results of the supplemental assessment and the data presented in the original SAR, No Further Action (NFA) is recommended for sites CF-AN05 and CF-AN16.

Site CF-AN14:

The FDEP comment letter requested clarification of the sampling dates and analytical results for the groundwater samples collected at pipeline anomaly CF-AN14. Review of the SAR revealed some discrepancies in the information reported in the SAR. Clarification of these discrepancies is provided in Section 3.2.2.2 of this SARA. As previously reported in the SAR, the concentrations of COCs in the soil and groundwater samples collected at CF-AN14 were below their respective SCTLs and GCTLs. Based on these results, NFA is recommended for Site CF-AN14.

Site CF-TH03:

The FDEP comment letter concurred that excavation (as part of planned road widening activities being conducted by the City of Jacksonville) was an acceptable means of remediating contaminated soil at Site CF-TH03. However, since the extent of contaminated soil did not appear to be completely delineated, the FDEP indicated that confirmatory soil sampling will be required after the soil is excavated to demonstrate that contaminated soil does not remain after the roadwork is complete. In effort to better define the extent of contaminated soil prior to excavation, TtNUS mobilized to the site to perform additional soil assessment. The following tasks were completed as part of the additional assessment:

- Obtained a new FDOT ROW permit to conduct the work in the roadway.
- Advanced nine soil borings using DPT and screened the soils above the water table with an OVA-FID.
- Based on the OVA-FID data, one soil sample was collected from each soil boring for analysis using an on-site mobile laboratory. Each soil sample was collected from the interval (above the water table) that displayed the highest net OVA-FID reading.

- Based on the OVA-FID results, soil samples were collected from eight of the nine soil borings for off-site laboratory analysis for constituents of the GAG/ KAG

The results from the supplemental assessment indicate that the extent of contaminated soil in the area impacted by the planned road widening project has been delineated. However, petroleum impacted soil was discovered on the west side of the site and to the northeast of the site that does not appear to be associated with the pipeline. These areas are located just outside the limits of the planned road widening project and are within the FDOT ROW. Therefore, it is recommended that these areas be included in the memorandum of agreement to be negotiated with the FDOT for other sites located within the FDOT ROW.

Site CF-VA02:

The FDEP comment letter requested that monitoring well CEF-VA02-MW1 at site CF-VA02 be re-sampled. The well was resampled and the results indicate that naphthalene was the only COC detected. The laboratory analytical report indicates that the concentration of naphthalene was below the GCTL. As a result, NFA is recommended for Site CF-VA02.

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

Tetra Tech NUS, Inc. (TtNUS) has completed a supplemental Site Assessment (SA) at various sites associated with the Jet Fuel Pipeline that runs from Naval Air Station (NAS) Cecil Field to NAS Jacksonville in Jacksonville, Florida. The supplemental site assessment activities were conducted in response to comments issued by the Florida Department of Environmental Protection (FDEP) after reviewing the Site Assessment Report (SAR) submitted in April 2002 (TtNUS, 2002). The FDEP comment letter, issued on September 30, 2002, requested that additional assessment be conducted at sites CF-AN05, CF-AN16, CF-TH03, and CF-VA02. In addition, the FDEP letter requested clarification of data reported in the SAR for Site AN14. A copy of the FDEP comment letter is provided in Appendix A.

2.0 INVESTIGATIVE METHODOLOGY

2.1 QUALITY ASSURANCE

The field procedures described in this SARA were performed in general accordance with the FDEP Standard Operating Procedures described in the TtNUS Comprehensive Quality Assurance Plan (CompQAP) Number 980038, Revision 1. Soil and groundwater samples collected during TtNUS' additional investigation for analyses by a fixed-base laboratory were shipped on ice and under chain-of-custody to either Accutest Laboratories, Inc. in Orlando, Florida or Environmental Conservation Laboratories, Inc. (ENCO) in Jacksonville, Florida. The samples were analyzed for constituents of the GAG/KAG specified in Chapter 62-770, FAC.

2.2 SOIL ASSESSMENT

Supplemental soil investigations were conducted at sites CF-AN05, CF-AN16, and CF-TH03. Prior to initiation of field activities, TtNUS applied for and obtained an FDOT ROW Special Use Permit (Number 03K2940064). The permit specified the proper traffic control patterns to safely conduct the public through each of the work areas. In addition, the permit specified that the work would be conducted between the hours of 8:00 P.M. and 5:00 A.M. Prior to beginning work each night, a traffic control maintenance subcontractor set up the appropriate traffic control devices as specified in the permit. Once the altered flow of traffic was established, the field activities began. Prior to any ground penetrations, utility clearances were conducted and any possible utility line interference(s) resolved.

Soil boring advancement equipment was decontaminated prior to and following each installation as specified in TtNUS' CompQAP. Rinse water generated during the decontamination of equipment was containerized in a 55-gallon drum and removed for later disposal. In addition to liquid investigative derived waste, soil cuttings were also generated. Those cuttings were placed in a 55-gallon drum and removed for later disposal.

2.2.1 DPT Soil Borings and Soil Organic Vapor Analysis

In accordance with Chapter 62-770, FAC, soil samples were inspected for petroleum staining, and headspace analysis was performed using a PhotoVac Micro-FID Organic Vapor Analyzer. The headspace analysis was performed in accordance with the procedures specified in Rule 62-770.200(12). The soil boring logs for each site and each location are provided Appendix B. The DPT Sample Log Sheets with the unfiltered, filtered, and total (or net) OVA-FID results are provided in Appendix C. The following paragraphs contain site-specific information with regard to this activity.

2.2.1.1 CF-AN05

On October 7 and 8, 2003, four soil borings were installed at CF-AN05. The borings were installed approximately 10 to 20 feet (ft) from the anomaly. When conducting utility clearances for CF-AN05, a primary sewer main was identified very close to the anomaly. As a result, a soil boring could not be installed adjacent to the anomaly. During the soil-boring operations, TtNUS ascertained that the depth to water at the site was approximately 4.5 to 5.5 ft below land surface (bls). Based on the depth-to-water, soil samples were collected from each boring at 1.5 ft and 2.5 ft bls. Due to the shallow depth of these intervals, the samples were collected using a stainless steel hand auger. The boring location numbers were labeled as follows: CF-AN05-SB05, CF-AN05-SB06, CF-AN05-SB07, and CF-AN05-SB08.

2.2.1.2 CF-AN16

On the October 9 and 10, 2003, five soil borings were installed at CF-AN16. Four of the soil borings were installed approximately 10 to 15 ft from the anomaly. The fifth soil boring was installed adjacent to the anomaly. During the soil boring operations, TtNUS ascertained that the depth to water at the site was approximately 7.5 to 8 ft bls. Based on the depth to water, soil samples were collected from each boring at 2 ft intervals starting at 1 ft bls and extending to 1 ft above the water table. The first two intervals were collected using a stainless steel hand auger and the remaining intervals were collected using DPT stainless steel tooling with 4-ft long acetate sleeves. The boring location numbers were labeled as follows: CF-AN16-SB05, CF-AN16-SB06, CF-AN16-SB07, CF-AN16-SB08, and CF-AN16-SB09.

2.2.1.3 CF-TH03

On October 8 and 9, 2003, nine soil borings were installed at CF-TH03. The soil borings were installed in areas that required additional soil delineation as indicated in the original SAR. One location from the previous investigation (CF-TH03-SB-26) was re-sampled. Seven new soil borings were installed on the east side of the site. One new soil boring was installed on the west side of the site. During the soil boring operations, TtNUS ascertained that the depth to water on the east side of the site was approximately 4.5 to 5.5 ft bls, and the depth to water on the west side of the site was approximately 3 ft bls. Based on the depth to water, the soil samples that were collected from borings installed on the east side of the site were collected at 1 to 2 ft bls, 2 to 3 ft bls and 4 to 4.5 ft bls. The soil samples that were collected from borings installed on the west side of the site were collected from 1 to 2 ft bls. The samples were collected using a stainless steel hand auger. The boring location numbers were labeled as follows: CF-TH03-SB26, CF-TH03-SB28, CF-TH03-SB29, CF-TH03-SB30, CF-TH03-SB31, CF-TH03-SB32, CF-TH03-SB33, CF-TH03-SB34, and CF-TH03-SB35.

2.2.2 Mobile and Fixed-Base Laboratory Analysis of Soil

Soil samples were collected from selected soil boring locations for on-site screening in a mobile laboratory, and/or fixed-base laboratory analysis at an off-site laboratory. The samples were collected using a stainless steel hand auger (for samples collected from depths less than 4 ft bls), or a stainless steel Macro Core® Soil Sampler (for samples collected from depths greater than 4 feet bls.) with 4-ft long acetate sleeves. The soil samples were collected from the interval above the water table that produced the highest OVA response. If there was no OVA-FID response from any sample at a given location, the sample was collected from approximately 1 ft above the water table.

The samples that were submitted to the mobile laboratory were analyzed for methyl-tert-butyl ether (MTBE); benzene, toluene, ethylbenzene, and total xylenes (BTEX); naphthalene; 1-methylnaphthalene; and 2-methylnaphthalene. The mobile laboratory samples were analyzed by KB Laboratories of Gainesville, Florida using United States Environmental Protection Agency (USEPA) Method SW846 5030/8260. The fixed-base laboratory samples were analyzed for constituents of the GAG/KAG as defined by Rule 62-770.600(4)(a), FAC. DPT Sample Log Sheets are provided in Appendix C..

2.2.2.1 CF-AN05

Soil samples were collected from four soil borings at CF-AN05 for mobile laboratory analysis. Since there were no OVA-FID responses at any soil boring location, the mobile laboratory samples were all collected from approximately 1 ft above the water table (2.5 to 3.5 ft bls). Since there were no OVA-FID responses or mobile laboratory detections at any soil boring location, only one confirmatory soil sample was collected at Site CF-AN05 for confirmatory off-site laboratory analysis. The confirmatory sample was collected from soil boring CF-AN05-SB05 at a depth of 2.5 to 3 ft bls.

2.2.2.2 CF-AN16

Soil samples were collected from five soil borings at CF-AN16 for mobile laboratory analysis. Since there were no OVA-FID responses at any soil boring location, the mobile laboratory samples were all collected from approximately 1 ft above the water table (5 to 6 ft bls). Since there were no OVA-FID responses or mobile laboratory detections at any soil boring location, only one confirmatory soil sample was collected at Site CF-AN16 for confirmatory off-site laboratory analysis. The confirmatory sample was collected from the source area soil boring, CF-AN16-SB05 at a depth of 5 to 6 ft bls.

2.2.2.3 CF-TH03

Soil samples were collected from eight soil borings at CF-TH3 for mobile laboratory analysis. Elevated OVA-FID responses were observed at all eight locations. Therefore, the mobile laboratory samples were collected from the interval above the water table that exhibited the highest net OVA-FID response. Confirmatory soil samples were collected from eight soil borings for off-site laboratory analysis. The confirmatory soil samples were also collected from the interval above the water table that exhibited the highest net OVA-FID response. A utility line was encountered near the surface while installing soil boring CF-TH3-SB29. Therefore, the boring was discontinued and no laboratory samples were collected from this location.

2.3 GROUNDWATER ASSESSMENT

Supplemental groundwater investigations were conducted at sites CF-AN05 and CF-AN16. The groundwater investigations were performed using a DPT rig to collect groundwater samples for on-site screening in a mobile laboratory, and/or fixed-base laboratory analysis at an off-site laboratory.

2.3.1 Mobile Laboratory Analyses of Groundwater

Groundwater samples were collected from each soil boring installed at sites CF-AN05 and CF-AN16 for mobile laboratory analysis. The samples were collected using a Geoprobe™ type stainless steel screen-point sampling tool, peristaltic pump, and polyethylene tubing. Prior to collecting the samples, the screen point sampler was purged until the discharge was clear. The samples were submitted to an on-site mobile laboratory for analysis for MTBE, BTEX, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. The mobile laboratory samples were analyzed using EPA Method SW846 5030/8260.

2.3.1.1 CF-AN05

Groundwater samples were collected from four soil borings at site CF-AN05 for mobile laboratory analysis. The groundwater samples, CF-AN05-TMW05, CF-AN05-TMW06, CF-AN05-TMW07, and CF-AN05-TMW08, were collected from soil borings SB-05, SB-06, SB-07 and SB-08 respectively.

2.3.1.2 CF-AN16

Groundwater samples were collected from five soil borings at site CF-AN16 for mobile laboratory analysis. The groundwater samples, CF-AN16-TMW05, CF-AN16-TMW06, CF-AN16-TMW07, CF-AN16-

TMW08, and CF-TMW09, were collected from soil borings SB-05, SB-06, SB-07, SB-08, and SB-09 respectively.

2.3.2 Fixed-Base Laboratory Analysis of Groundwater

Groundwater samples were collected from select soil boring locations at CF-AN05 and CF-AN16 for off-site fixed-base laboratory analysis. The FDOT special use ROW permit specified that permanent monitoring wells could not be installed within the roadway. Therefore, temporary micro wells were installed for collection of fixed-base laboratory samples. The samples were shipped under chain of custody protocol to Accutest Laboratories for analysis for constituents of the GAG/KAG as defined by Rule 62-770.600(4)(a), FAC.

2.3.2.1 CF-AN05

Based on the mobile laboratory analytical results, one temporary micro well was installed and sampled at Site CF-AN05. The temporary micro well (designated CF-AN05-TMW07), was installed at soil boring location SB07. A groundwater sample was collected from CF-AN05-TMW07 on October 8, 2003. A sample log sheet is provided in Appendix C

2.3.2.2 CF-AN16

Based on the mobile laboratory analytical results, one temporary micro well was installed and sampled at Site CF-AN16. The temporary micro well (designated CF-AN16-TMW05), was installed at soil boring location SB05. A groundwater sample was collected from CF-AN05-TMW05 on October 10, 2003. A sample log sheet is provided in Appendix C.

2.3.2.3 CF-VA02

Pursuant to the FDEP SAR review letter, a groundwater sample was collected from monitoring well CEF-VA02-1S. The sample was collected on November 21, 2003 and submitted to Environmental Conservation Laboratories (ENCO) of Jacksonville, FL. The sample was analyzed for volatile organic compounds (VOCs) in accordance with USEPA Method SW846 8260B and polynuclear aromatic hydrocarbons (PAHs) in accordance with USEPA Method SW846 8270C. The sample was delivered to ENCO by courier.

3.0 RESULTS OF INVESTIGATION

3.1 SOIL ASSESSMENT

3.1.1 Soil Organic Vapor Analysis Results

3.1.1.1 CF-AN05

Since no evidence of visible petroleum staining was encountered, the OVA-FID headspace analysis was used to assess if any petroleum impacted soil was present on site. No positive OVA-FID responses were observed on any of the soil samples screened during this supplemental soil investigation. OVA-FID headspace measurements for site CF-AN05 are summarized in Table 3-1.

3.1.1.2 CF-AN16

Since no evidence of visible petroleum staining was encountered, the OVA-FID headspace analysis was used to assess if any petroleum impacted soil was present on site. No positive OVA-FID responses were observed on any of the soil samples screened during this supplemental soil investigation. OVA-FID headspace measurements for site CF-AN16 are summarized in Table 3-2.

3.1.1.3 CF-TH03

Some gray to black shiny staining was observed in one soil boring (SB-26) installed at CF-TH03. No soil staining was observed in any of the other borings installed during this supplemental soil investigation. The OVA-FID headspace analysis was used to assess the extent of petroleum impacted soil at the site. "Excessively contaminated soil", (OVA-FID response > 50 ppm as defined by Rule 62-770.200(12), FAC), was identified in each boring except SB-29. OVA-FID headspace measurements for site CF-TH03 are summarized in Table 3-3. The net OVA-FID headspace results for each soil boring location at CF-TH03 are depicted on Figure 3-1.

3.1.2 Mobile Laboratory Analytical Results for Soil

3.1.2.1 CF-AN05

Mobile laboratory analytical results were below method detection limits for all soil samples collected at site CF-AN05. The mobile laboratory analytical results for site CF-AN05 are summarized in Table 3-4. The laboratory analytical report is provided in Appendix E.

Table 3-1
Soil Vapor Screening Results for CF-AN05

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NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Soil Boring Number	Date of Measurement	Sample Interval (ft bls)	OVA-FID Concentration (ppm)		
			Unfiltered	Filtered	Petroleum Vapors
SB-05	10/7/2003	1.5 - 2	0.0	NA	0.0
		2.5 - 3	0.0	NA	0.0
SB-06	10/7/2003	1.5 - 2	0.0	NA	0.0
		3 - 3.5	0.0	NA	0.0
SB-07	10/7/2003	1.5 - 2	0.0	NA	0.0
		2.5 - 3	0.0	NA	0.0
SB-08	10/8/2003	1.5 - 2	0.0	NA	0.0
		3 - 3.5	0.0	NA	0.0

Notes:
NA = not analyzed

**Table 3-2
Soil Vapor Screening Results for CF-AN16**

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

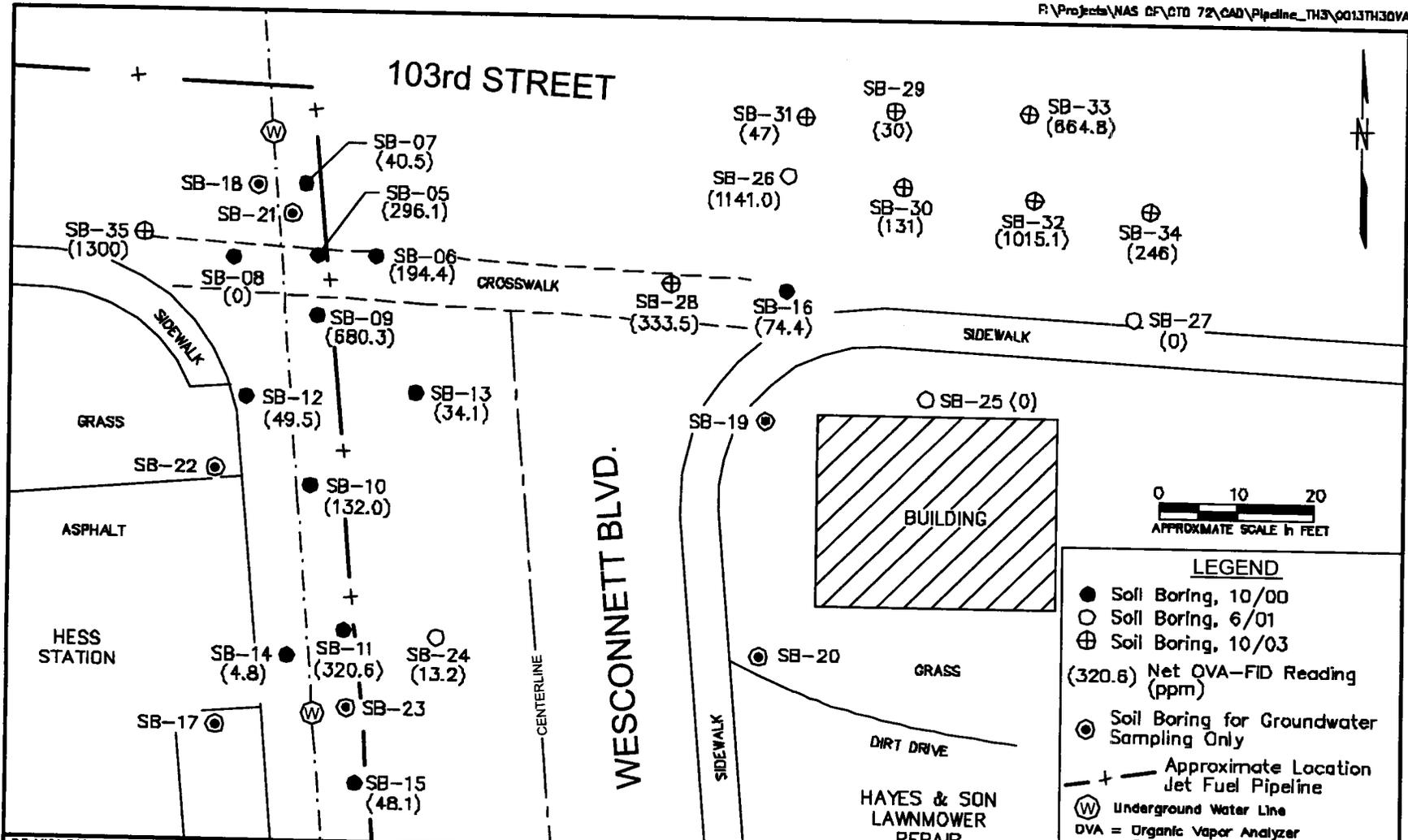
Soil Boring Number	Date of Measurement	Sample Interval (ft bls)	OVA-FID Concentration (ppm)		
			Unfiltered	Filtered	Petroleum Vapors
SB-05	10/9/2003	1 - 2	0.0	NA	0.0
		3 - 4	0.0	NA	0.0
		5 - 6	0.0	NA	0.0
		7 - 8	0.0	NA	0.0
		9 - 10	0.0	NA	0.0
SB-06	10/9/2003	1 - 2	0.0	NA	0.0
		3 - 4	0.0	NA	0.0
		5 - 6	0.0	NA	0.0
		7 - 8	0.0	NA	0.0
		9 - 10	0.0	NA	0.0
SB-07	10/10/2003	2 - 2.5	0.0	NA	0.0
		3 - 4	0.0	NA	0.0
		5 - 6	0.0	NA	0.0
		7 - 8	0.0	NA	0.0
		9 - 10	0.0	NA	0.0
SB-08	10/10/2003	1 - 2	0.0	NA	0.0
		3 - 4	0.0	NA	0.0
		5 - 6	0.0	NA	0.0
		7 - 8	0.0	NA	0.0
		9 - 10	0.0	NA	0.0

Notes:
NA = not analyzed

Table 3-3
Soil Vapor Screening Results for CF-TH03

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Soil Boring Number	Date of Measurement	Sample Interval	OVA-FID Concentration (ppm)		
			Unfiltered	Filtered	Petroleum Vapors
SB-26	10/8/2003	1 - 2	107.0	25.0	85.0
		2 - 3	249.0	25.0	224.0
		4 - 4.5	497.0	39.2	457.8
SB-28	10/9/2003	1 - 2	618.0	284.5	333.5
		2 - 3	502.0	439.9	62.1
		4 - 4.5	166.4	77.0	89.4
SB-29	10/8/2003	1 - 2	42.0	12.0	30.0
SB-30	10/8/2003	1 - 2	257.0	126.0	131.0
		2 - 3	127.0	123.0	4.0
		4 - 4.5	720.0	91.2	628.8
SB-31	10/9/2003	1 - 2	81.0	34.0	47.0
		2 - 3	97.0	102.0	0.0
		4 - 4.5	211.0	44.0	167.0
SB-32	10/8/2003	1 - 2	4.0	0.0	4.0
		2 - 3	1152.0	136.9	1015.1
		4 - 4.5	92.6	37.8	54.8
SB-33	10/9/2003	1 - 2	49.5	22.7	26.8
		2 - 3	828.0	163.2	664.8
		4 - 4.5	22.5	10.3	12.2
SB-34	10/9/2003	1 - 2	5.1	2.0	3.1
		2 - 3	1094.0	848.0	246.0
		4.5 - 5	150.0	73.0	77.0
SB-35	10/9/2003	1 - 2	1330.0	76.0	1254.0
		2 - 3	1882.0	582.0	1300.0



DRAWN BY LLK	DATE 1/9/04
CHECKED BY	DATE
COST/SCHED-AREA	
SCALE AS NOTED	



SITE PLAN, SAMPLE LOCATIONS, AND SOIL VAPOR SCREENING RESULTS
 CF-TH03 (103rd STREET @ WESCONNETT BLVD.)
 NASJAX to NASCF
 JET FUEL PIPELINE
 JACKSONVILLE, FLORIDA

CONTRACT NO.	0013
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO.	FIGURE 3.1
REV.	0

**Table 3-4
Mobile Laboratory Results for CF-AN05**

Site Assessment Report Addendum
 NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
 Naval Air Station Cecil Field
 Jacksonville, Florida

Sample ID CF-AN05-	SB05	TMW05	SB06	TMW06	SB07	TMW07	SB08	TMW08
Date of Collection	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003
Depth of Sample	2.5-3 ft bls	5-9 ft bls	3-3.5 ft bls	6-10 ft bls	2.5-3 ft bls	6-10 ft bls	3-3.5 ft bls	6-10 ft bls
Collection Method*	HA	DPT	HA	DPT	HA	DPT	HA	DPT
VOCs (SW846 Method 5030/8260)								
Benzene	<0.070	<1.0	<0.070	<1.0	<0.070	<1.0	<0.070	<1.0
Ethylbenzene	<0.010	<1.0	<0.010	<1.0	<0.010	1.1	<0.010	1.1
Toluene	<0.010	3.5	<0.010	2.8	<0.010	2.8	<0.010	3.4
m&p-Xylene	<0.010	2.9	<0.010	2.0	<0.010	3.4	<0.010	3.7
o-Xylene	<0.010	1.0	<0.010	<1.0	<0.010	1.1	<0.010	1.2
MTBE	<0.050	8.4	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
PAHs (SW846 Method 5030/8260)								
Naphthalene	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
1-Methylnaphthalene	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
2-Methylnaphthalene	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0

Notes:

*Collection method indicates soil sample collected with stainless steel hand auger and groundwater sample collected with stainless steel well screen.
 Reporting units for waters are micrograms per liter (µg/L) and for soils are milligrams per kilograms (mg/kg).

HA = hand auger

< = less than

3.1.2.2 CF-AN16

Mobile laboratory analytical results were below method detection limits for all soil samples collected at site CF-AN16. The mobile laboratory analytical results for site CF-AN16 are summarized in Table 3-5. The laboratory analytical report is provided in Appendix E.

3.1.2.3 CF-TH03

Mobile laboratory analytical results were below method detection limits in soil samples collected from soil borings SB-26, SB-28, SB-32, SB-33, and SB-34. Xylenes were detected in the soil samples collected from soil borings SB-31 and SB-35, however, the concentrations in both samples were below the SCTL. 1-methylnaphthalene was detected in the soil sample collected from soil boring SB-30. However, the concentration was below the SCTL. The mobile laboratory analytical results for site CF-TH03 are summarized in Table 3-6. The laboratory report is provided in Appendix E.

3.1.3 Fixed-Base Laboratory Analytical Results for Soil

3.1.3.1 CF-AN05

The fixed-base laboratory analytical results for the confirmatory soil sample collected at site CF-AN05 indicate that naphthalene was detected at a concentration that was below the SCTL. The concentrations of all other COCs were below standard laboratory detection limits. The fixed-base laboratory analytical results for soil at site CF-AN05 are summarized in Table 3-7 and depicted on Figure 3-2. The laboratory analytical report is provided in Appendix F.

3.1.3.2 CF-AN16

The fixed-base laboratory analytical results for the confirmatory soil sample collected at site CF-AN16 indicate that the concentrations of all COCs were below standard laboratory detection limits. The fixed-base laboratory analytical results for soil at site CF-AN16 are summarized in Table 3-8 and depicted on Figure 3-3. The laboratory analytical report is provided in Appendix G.

<p align="center">Table 3-5 Mobile Laboratory Results for CF-AN16 Site Assessment Report Addendum NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline Naval Air Station Cecil Field Jacksonville, Florida</p>										
Sample ID CF-AN16-	SB05	TMW05	SB06	TMW06	SB07	TMW07	SB08	TMW08	SB09	TMW09
Date of Collection	10/9/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003
Depth of sample	5-6 ft bls	8-12 ft bls								
Collection method*	DPT	DPT								
VOCs (SW846 Method 5030/8260)										
Benzene	<0.070	<1.0	<0.070	<1.0	<0.070	<1.0	<0.070	<1.0	<0.070	<1.0
Ethylbenzene	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0
Toluene	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0
m&p-Xylene	<0.010	<1.0	<0.010	1.0	<0.010	1.0	<0.010	<1.0	<0.010	<1.0
o-Xylene	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0
MTBE	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
PAHs (SW846 Method 5030/8260)										
Naphthalene	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
1-Methylnaphthalene	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
2-Methylnaphthalene	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
Notes:										
*Collection method indicates soil sample collected with stainless steel sampler with acetate sleeve and groundwater sample collected with stainless steel well screen. Reporting units for waters are µg/L and for soils are mg/kg.										

**Table 3-6
Mobile Laboratory Results for CF-TH03**

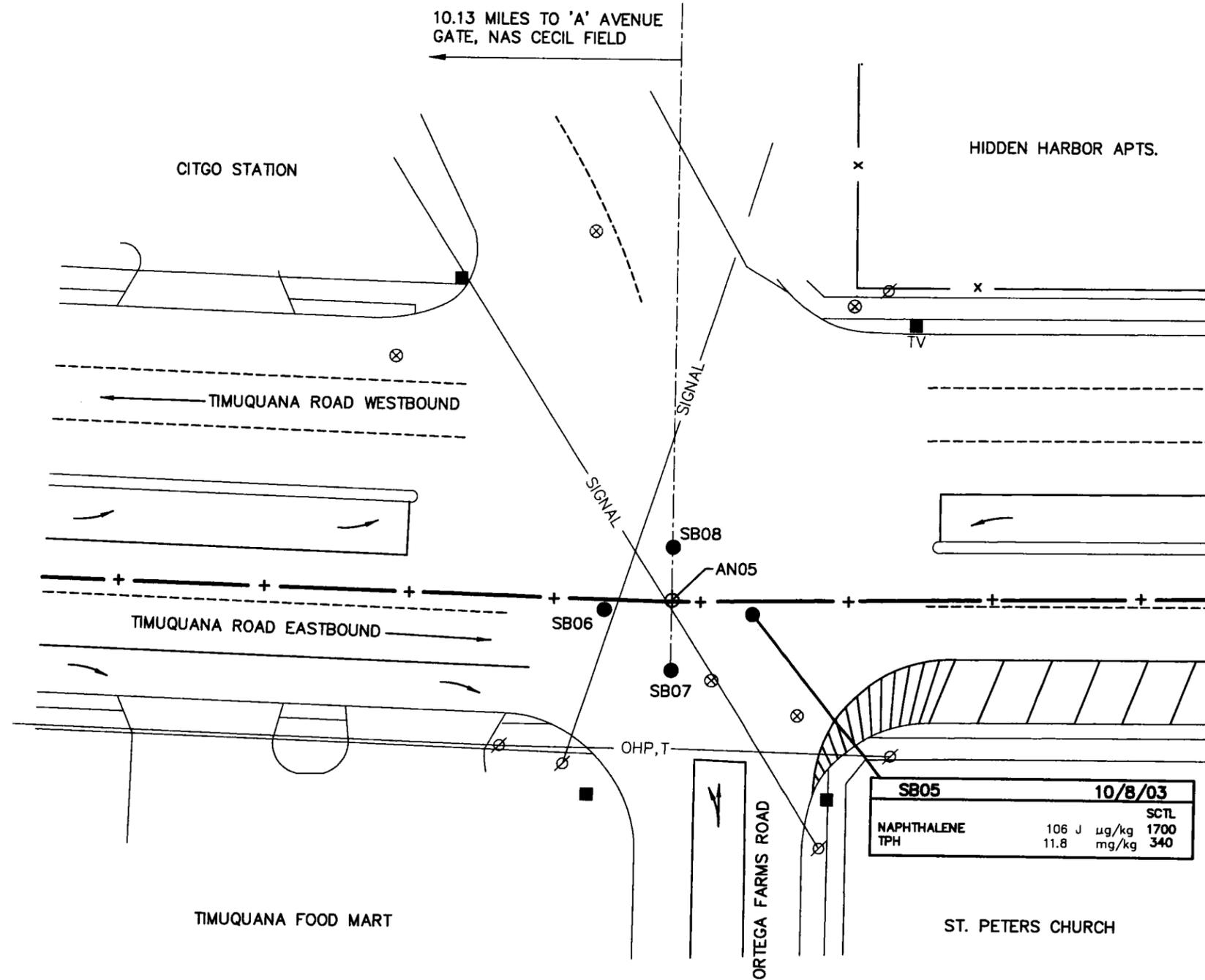
Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Sample ID CF-TH03-	SB26	SB28	SB30	SB31	SB32	SB33	SB34	SB35
Date of Collection	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003
Depth of sample	2-3 ft bls	1-2 ft bls	2-2.5 ft bls	1-2 ft bls	2-3 ft bls	2-3 ft bls	2-3 ft bls	1-2 ft bls
Collection method*	HA	HA	HA	HA	HA	HA	HA	HA
VOCs (SW846 Method 5030/8260)								
Benzene	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070
Ethylbenzene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.024
Toluene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
m&p-Xylene	<0.010	<0.010	<0.010	0.014	<0.010	<0.010	<0.010	0.10
o-Xylene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.027
MTBE	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
PAHs (SW846 Method 5030/8260)								
Naphthalene	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1-Methylnaphthalene	<0.050	<0.050	0.060	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylnaphthalene	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Notes:								
*Collection method indicates soil sample collected with stainless steel hand auger. Reporting units for soils are mg/kg.								

**Table 3-7
Fixed-Base Laboratory Soil Analytical Results for CF-AN05**

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	SCTL ¹	SB-05 @ 3 ft
		10/8/2003
VOCs (USEPA Method 8260B) (µg/kg)		
MTBE	200	<7.8
Benzene	7	<7.8
Toluene	500	<7.8
Ethylbenzene	600	<7.8
Total Xylenes	200	<23
PAHs (USEPA Method 8310) (µg/kg)		
Naphthalene	1700	106 J
1-Methylnaphthalene	2200	<370
2-Methylnaphthalene	6100	<370
Acenaphthylene	27000	<740
Acenaphthene	2100	<740
Phenanthrene	250000	<370
Anthracene	2500000	<370
Fluorene	160000	<370
Fluoranthene	1200000	<370
Pyrene	880000	<370
Benzo(a)anthracene	1400	<370
Chrysene	77000	<370
Benzo(b)fluoranthene	1400	<74
Benzo(k)fluoranthene	15000	<74
Benzo(a)pyrene	100	<74
Dibenzo(a,h)anthracene	100	<74
Benzo(g,h,i)perylene	2300000	<74
Indeno(1,2,3-cd)pyrene	1500	<74
TRPHs (FDEP Method FL-PRO) (mg/kg)		
TPH	340	11.8
Notes:		
¹ Chapter 62-777, FAC (August 1999). Most stringent value of groundwater leachability and direct exposure limits. < = concentration less than value indicated J = estimated value µg/kg = micrograms per kilogram TRPH = total recoverable petroleum hydrocarbons TPH = total petroleum hydrocarbons FL-PRO = Florida Petroleum Range Organics		



NOTE:

- SOIL AND GROUNDWATER LABORATORY ANALYTICAL RESULTS INDICATED NO CONTAMINANTS ABOVE FDEP TARGET LEVELS IN EACH OF THE BORINGS.

LEGEND:

- ⊗ MANHOLE COVERS
- OHV,T,TV OVERHEAD TRANSMISSION LINE
- SOIL SAMPLE LOCATION
- ⊕ ANOMALY OR VALVE LOCATION
- +— JET FUEL PIPELINE
- GCTL SOIL CLEANUP TARGET LEVEL

0 30 60
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY DATE
MF 01/06/04

CHECKED BY DATE

COST/SCHED-AREA

SCALE AS NOTED



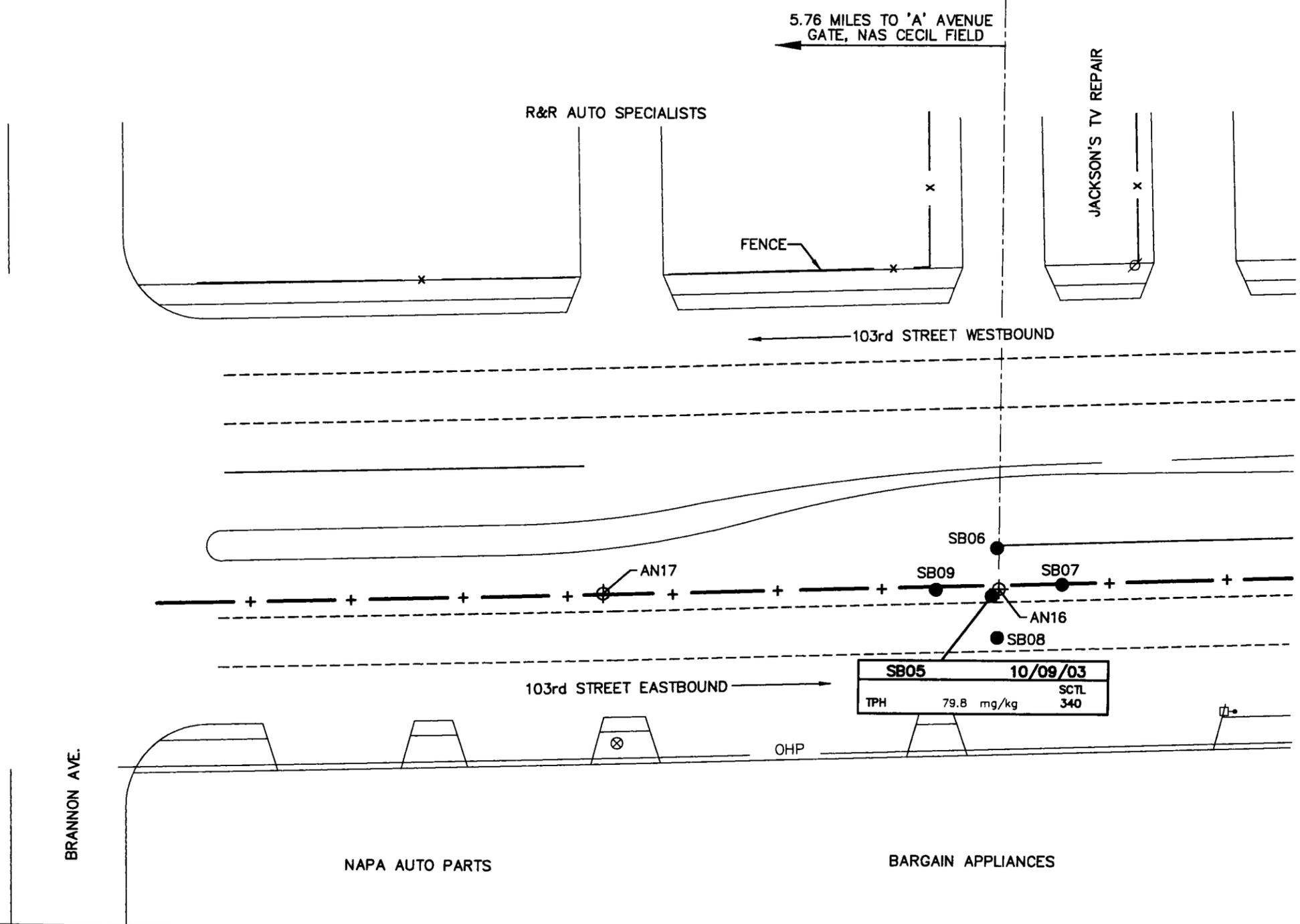
SOIL ANALYTICAL RESULTS
CF-AN05
NASJAX TO NASCF
JET FUEL PIPELINE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0013	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 3-2	REV. 0

**Table 3-8
Fixed-Base Laboratory Soil Analytical Results for CF-AN16**

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	SCTL ¹	SB-5 @ 6 ft
		10/9/2003
VOCs (USEPA Method 8260B) (µg/kg)		
MTBE	200	<7.4
Benzene	7	<7.4
Toluene	500	<7.4
Ethylbenzene	600	<7.4
Total Xylenes	200	<22
PAHs (USEPA Method 8310) (µg/kg)		
Naphthalene	1700	<360
1-Methylnaphthalene	2200	<360
2-Methylnaphthalene	6100	<360
Acenaphthylene	27000	<720
Acenaphthene	2100	<720
Phenanthrene	250000	<360
Anthracene	2500000	<360
Fluorene	160000	<360
Fluoranthene	1200000	<360
Pyrene	880000	<360
Benzo(a)anthracene	1400	<360
Chrysene	77000	<360
Benzo(b)fluoranthene	1400	<72
Benzo(k)fluoranthene	15000	<72
Benzo(a)pyrene	100	<72
Dibenzo(a,h)anthracene	100	<72
Benzo(g,h,i)perylene	2300000	<72
Indeno(1,2,3-cd)pyrene	1500	<72
TRPH (FDEP Method FL-PRO) (mg/kg)		
TPH	340	79.8
Notes:		
¹ Chapter 62-777, FAC (August 1999). Most stringent value of groundwater leachability and direct exposure limits.		
< = concentration less than value indicated		



NOTE:

- SOIL AND GROUNDWATER LABORATORY ANALYTICAL RESULTS INDICATED NO CONTAMINANTS ABOVE FDEP TARGET LEVELS IN EACH OF THE BORINGS.

LEGEND:

- OHP OVERHEAD TRANSMISSION LINE
- ⊗ MANHOLE COVER
- SOIL SAMPLE LOCATION
- ⊕ ANOMALY OR VALVE LOCATION
- +— JET FUEL PIPELINE
- GCTL SOIL CLEANUP TARGET LEVEL

0 30 60
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY MF 01/06/04
 CHECKED BY DATE
 COST/SCHED-AREA
 SCALE AS NOTED



SOIL ANALYTICAL RESULTS
 CF-AN16
 NASJAX TO NASCF
 JET FUEL PIPELINE
 JACKSONVILLE, FLORIDA

CONTRACT NO. 0013	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 3-3	REV. 0

3.1.3.3 CF-TH03

The fixed-base laboratory analytical results for the confirmatory soil samples collected at site CF-TH03 indicate that VOCs were detected in the soil samples collected from soil borings SB-34 and SB-35. PAHS were detected in the soil samples collected from soil borings SB-28, SB-30 and SB-35. TRPH was detected in soil samples collected from soil borings SB-26, SB-28, SB-30, SB-31, SB-32, SB-33, B-34, and SB-35. The concentration of total xylenes exceeded the SCTL in the soil sample collected from soil boring SB-35. The concentration of benzo(a)pyrene exceeded the SCTL in the soil sample collected from soil boring SB-28. The concentration of TRPH exceeded the SCTL in the soil samples collected from soil borings SB-31, SB-33 and SB-35. The fixed-base laboratory analytical results for soil at site CF-TH03 are summarized in Table 3-9 and depicted on Figure 3-4. The laboratory analytical report is provided in Appendix H.

3.2 GROUNDWATER QUALITY

3.2.1 Mobile Laboratory Analytical Results for Groundwater

3.2.1.1 CF-AN05

VOAs were detected in mobile laboratory samples CF-AN05-TMW05, CF-AN05-TMW06, CF-AN05-TMW07, and CF-AN05-TMW08, however, the concentrations were below the GCTLs in all four samples. The concentrations of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene were below method detection limits in all mobile laboratory samples collected at CF-AN05. The mobile laboratory analytical results for site CF-AN05 are summarized in Table 3-4. The laboratory report is provided in Appendix E.

3.2.1.2 CF-AN16

Xylenes were detected in mobile laboratory samples CF-AN16-TMW06 and CF-AN16-TMW07, however, the concentration was below the GCTL in both samples. The mobile laboratory results for all other groundwater samples collected from CF-AN16 were below method detection limits. The mobile laboratory analytical results for site CF-AN16 are summarized in Table 3-5. The laboratory report is provided in Appendix E.

Table 3-9
Fixed-Base Laboratory Soil Analytical Results for CF-TH03

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	SCTL ¹	SB-26	SB-28	SB-30	SB-31	SB-32	SB-33	SB-34	SB-35
		3 ft	2 ft	2.5 ft	2 ft	3 ft	3 ft	3 ft	2 ft
		10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003
VOCs (USEPA Method 8260B) (µg/kg)									
Benzene	7	<7.0	<7.8	<7.4	<8.3	<7.5	<7.5	<7.7	<8.4
Ethylbenzene	600	<7.0	<7.8	<7.4	<8.3	<7.5	<7.5	<7.7	134
Toluene	500	<7.0	<7.8	<7.4	<8.3	<7.5	<7.5	<7.7	3.5
Total Xylenes	200	<21	<23	<22	<25	<22	<22	10.2 J	538
MTBE	200	<7.0	<7.8	<7.4	<8.3	<7.5	<7.5	<7.7	<8.4
PAHs (USEPA Method 8310) (µg/kg)									
Acenaphthene	2100	<750	<800	<720	<800	<740	<720	<830	<730
Acenaphthylene	27000	<750	<800	<720	<800	<740	<720	<830	<730
Anthracene	2500000	<380	<400	<360	<400	<370	<360	<420	<360
Benzo(a)anthracene	1400	<380	<400	<360	<400	<370	<360	<420	<360
Benzo(a)pyrene	100	<75	139	87.9	<80	<74	<72	<83	<73
Benzo(b)fluoranthene	1400	<75	87.7	73.1	<80	<74	<72	<83	<73
Benzo(g,h,i)perylene	2300000	<75	140	59.7	<80	<74	<72	<83	<73
Benzo(k)fluoranthene	15000	<75	39.2 J	31.1	<80	<74	<72	<83	<73
Chrysene	77000	<380	<400	<360	<400	<370	<360	<420	<360
Dibenzo(a,h)anthracene	100	<75	<80	<72	<80	<74	<72	<83	<73
Fluoranthene	1200000	<380	<400	<360	<400	<370	<360	<420	<360
Fluorene	160000	<380	<400	<360	<400	<370	<360	<420	<360
Indeno(1,2,3-cd)pyrene	1500	<75	120	55.1	<80	<74	<72	<83	<73
Naphthalene	1700	<380	<400	<360	<400	<370	<360	<420	129 J
1-Methylnaphthalene	2200	<380	<400	<360	<400	<370	<360	<420	<360
2-Methylnaphthalene	6100	<380	<400	<360	<400	<370	<360	<420	<360
Phenanthrene	250000	<380	<400	<360	<400	<370	<360	<420	<360
Pyrene	880000	<380	<400	<360	<400	<370	<360	<420	<360
TRPH (FDEP Method FL-PRO) (mg/kg)									
TPH	340	6.65	134	255	775	98.4	341	25.4	1470

Notes:

Notes: ¹Chapter 62-777, FAC (August 1999). Most stringent value of groundwater leachability and direct exposure limits.

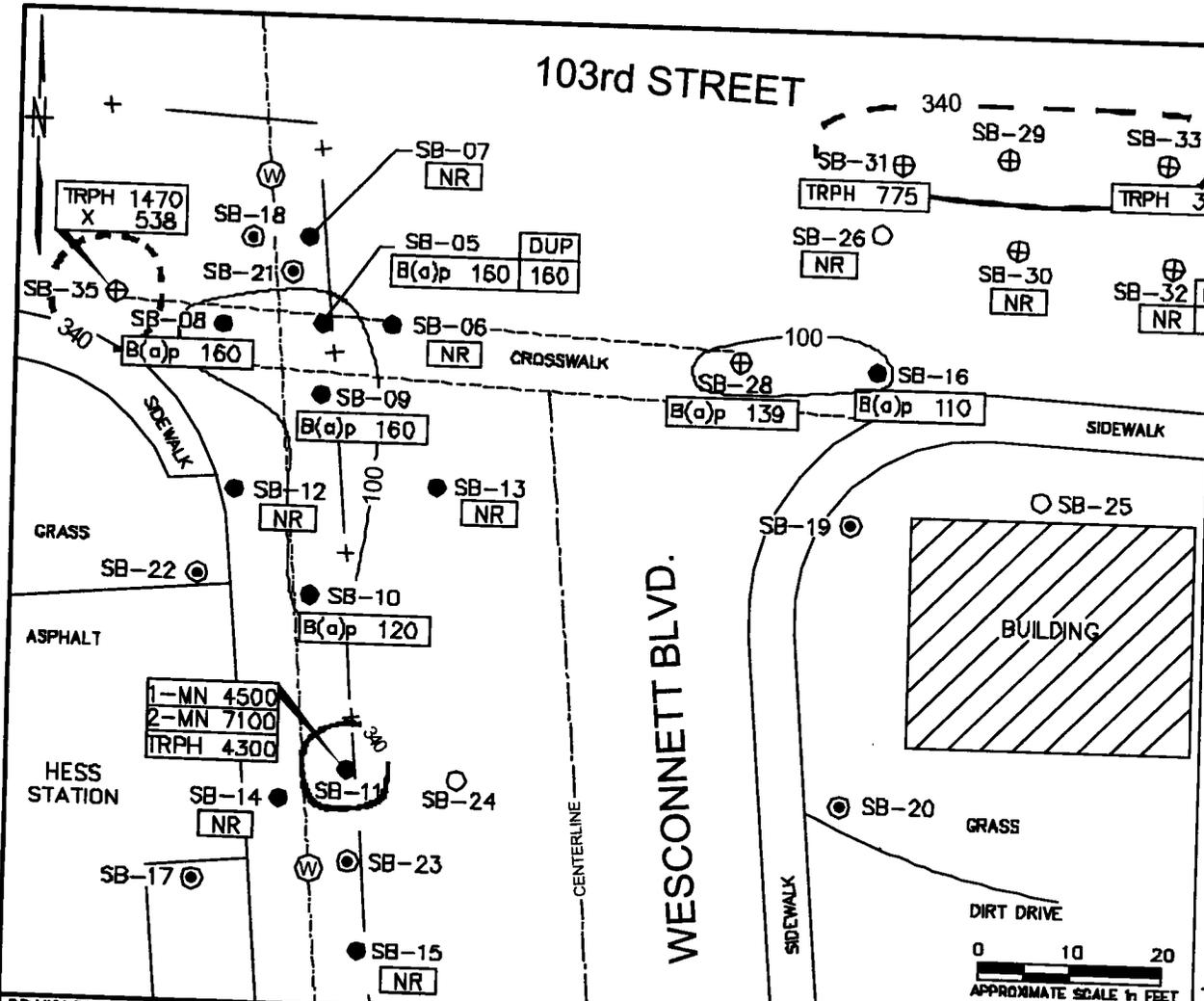
BOLD = exceedance of SCTL

J = estimated value

< = concentration less than value indicated

103rd STREET

NOTES:
 1. All samples collected two or three feet (ft) below land surface (bis)
 2. All concentrations in micrograms per kilogram, except TRPH which is in milligrams per kilogram.
 3. Sample not collected at boring locations where no data is displayed



LEGEND

- Soil Boring, 10/00
- Soil Boring, 6/01
- ⊕ Soil Boring, 10/03

CONSTITUENT → B(a)p 160 ← CONCENTRATION

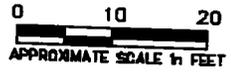
NR No exceedances reported
 DUP = Duplicate sample

— 340 — TRPH residential SCTL contour (dashed where inferred)
 — 100 — Benzo(a)pyrene residential SCTL contour

CONSTITUENT ABBREVIATIONS

- X TOTAL XYLENES
- 1-MN 1-METHYLNAPHTHALENE
- 2-MN 2-METHYLNAPHTHALENE
- B(a)p BENZO (a) PYRENE
- TRPH TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

+ — Jet Fuel Pipeline (approx.)
 ● Groundwater Grab Sample Location



DRAWN BY LLK	DATE 1/9/04
CHECKED BY	DATE
COST/SCHED-AREA	
SCALE AS NOTED	



SOIL ANALYTICAL RESULTS
 CF-TH03 (103rd STREET @ WESCONNETT BLVD.)
 NASJAX TO NASCF
 JET FUEL PIPELINE
 JACKSONVILLE, FLORIDA

CONTRACT NO.	0013
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO.	FIGURE 3.4
REV.	0

3.2.2 Fixed-Base Laboratory Analytical Results for Groundwater

3.2.2.1 CF-AN05

The fixed-base laboratory analytical results for the groundwater sample collected at CF-AN05 indicate that ethylbenzene, toluene, total xylenes, MTBE, and lead were detected at concentrations that were below their respective GCTLs. The concentrations of all other COCs were below method detection limits. The fixed-base laboratory analytical results for groundwater at site CF-AN05 are summarized on Table 3-10 and depicted on Figure 3-5. The laboratory report is provided in Appendix F.

3.2.2.2 CF-AN16

The fixed-base laboratory analytical results for the groundwater sample collected at CF-AN16 indicate that toluene, total xylenes, and lead were detected at concentrations that were below their respective GCTLs. The concentrations of all other COCs were below method detection limits. The fixed-base laboratory analytical results for groundwater at site CF-AN16 are summarized on Table 3-11 and depicted on Figure 3-6. The laboratory report is provided in Appendix G.

3.2.2.3 CF-AN14

As indicated in the FDEP comment letter, there was some discrepancy in the sampling dates and analytical results reported in the original SAR for the groundwater sampling conducted at pipeline anomaly CF-AN14. The SAR reported that monitoring well CF-MW-AN14-1S was sampled on three different dates. This information was incorrect. The well was first sampled on December 15, 1999, and subsequently on February 9, 2000. The laboratory analytical report for the December 1999 event was provided in the SAR, however, the laboratory results for the February 2000 event were omitted. The laboratory report for the February 2000 event is provided in Appendix I of this SARA. The results are summarized on Table 3-12, and depicted on Figure 3-7. The concentrations of all COCs were below their respective GCTLs in the sample collected in February 2000.

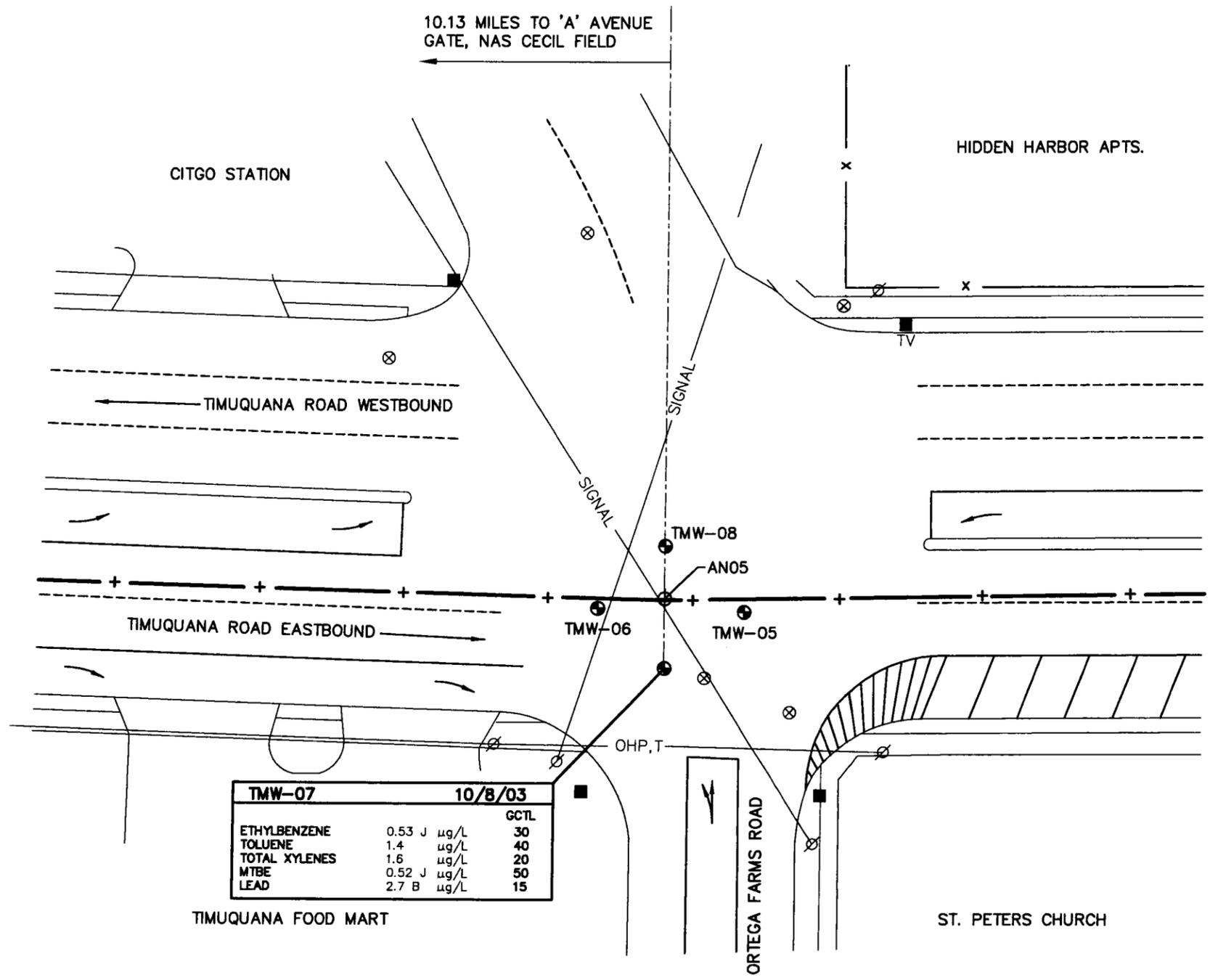
3.2.2.4 CF-VA02

As requested in the FDEP SAR comment letter, a groundwater sample was collected from monitoring well CEF-VA02-MW1 at site CF-VA02 to confirm the results of the previous sampling event. The sample was analyzed for constituents of the GAG/KAG as defined by Chapter 62-770, FAC. The laboratory analytical results indicate that naphthalene was detected at a concentration that was below the GCTL. The laboratory analytical results for monitoring well CEF-VA02-MW1 are summarized on Table 3-13. The laboratory report is provided in Appendix J.

Table 3-10
Fixed-Base Laboratory Groundwater Analytical Results for CF-AN05

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	GCTL ¹	TMW-07
		10/8/2003
VOCs (USEPA Method 8260B) (µg/L)		
Benzene	1	< 1.0
Ethylbenzene	30	0.53 J
Toluene	40	1.4
Total Xylenes	20	1.6
MTBE	50	0.52 J
1,2 Dichloroethane	3	< 1.0
PAHs (USEPA Method 8310) (µg/L)		
Naphthalene	20	< 2.2
1-methylnaphthalene	20	< 2.2
2-methylnaphthalene	20	< 2.2
Acenaphthylene	210	< 4.4
Acenaphthene	20	< 4.4
Phenanthrene	210	< 2.2
Anthracene	2100	< 2.2
Fluoranthene	280	< 2.2
Fluorene	280	< 2.2
Pyrene	210	< 2.2
Benzo(a)anthracene	0.2	< 0.22
Chrysene	4.8	< 2.2
Benzo(b)fluoranthene	0.2	< 0.22
Benzo(k)fluoranthene	0.5	< 0.22
Benzo(a)pyrene	0.2	< 0.22
Dibenz(a,h)anthracene	0.2	< 0.22
Benzo(g,h,i)perylene	210	< 0.22
Indeno(1,2,3-cd)pyrene	0.2	< 0.22
Ethylene Dibromide (USEPA Method 504.1) (µg/L)	0.02	< 0.019
TRPH (FDEP Method FL-PRO) (mg/kg)	5	< 0.29
Lead (SW846 6010B) (µg/L)	15	2.7 B
Notes:		
Notes: ¹ Chapter 62-777, FAC (August, 1999)		
< = concentration less than value indicated		
J = estimated value		
B = greater than the instrument detection limit, but less than the reporting limit		



TMW-07		10/8/03		GCTL	
ETHYLBENZENE	0.53 J	ug/L	30		
TOLUENE	1.4	ug/L	40		
TOTAL XYLENES	1.6	ug/L	20		
MTBE	0.52 J	ug/L	50		
LEAD	2.7 B	ug/L	15		

NOTE:

- SOIL AND GROUNDWATER LABORATORY ANALYTICAL RESULTS INDICATED NO CONTAMINANTS ABOVE FDEP TARGET LEVELS IN EACH OF THE BORINGS.

LEGEND:

- ⊗ MANHOLE COVERS
- OHV,T,TV OVERHEAD TRANSMISSION LINE
- ⊙ TEMPORARY MONITORING WELL
- ⊕ ANOMALY OR VALVE LOCATION
- +— JET FUEL PIPELINE
- GCTL GROUNDWATER CLEANUP TARGET LEVEL

0 30 60
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY DATE
MF 01/05/04

CHECKED BY DATE

COST/SCHED-AREA

SCALE AS NOTED



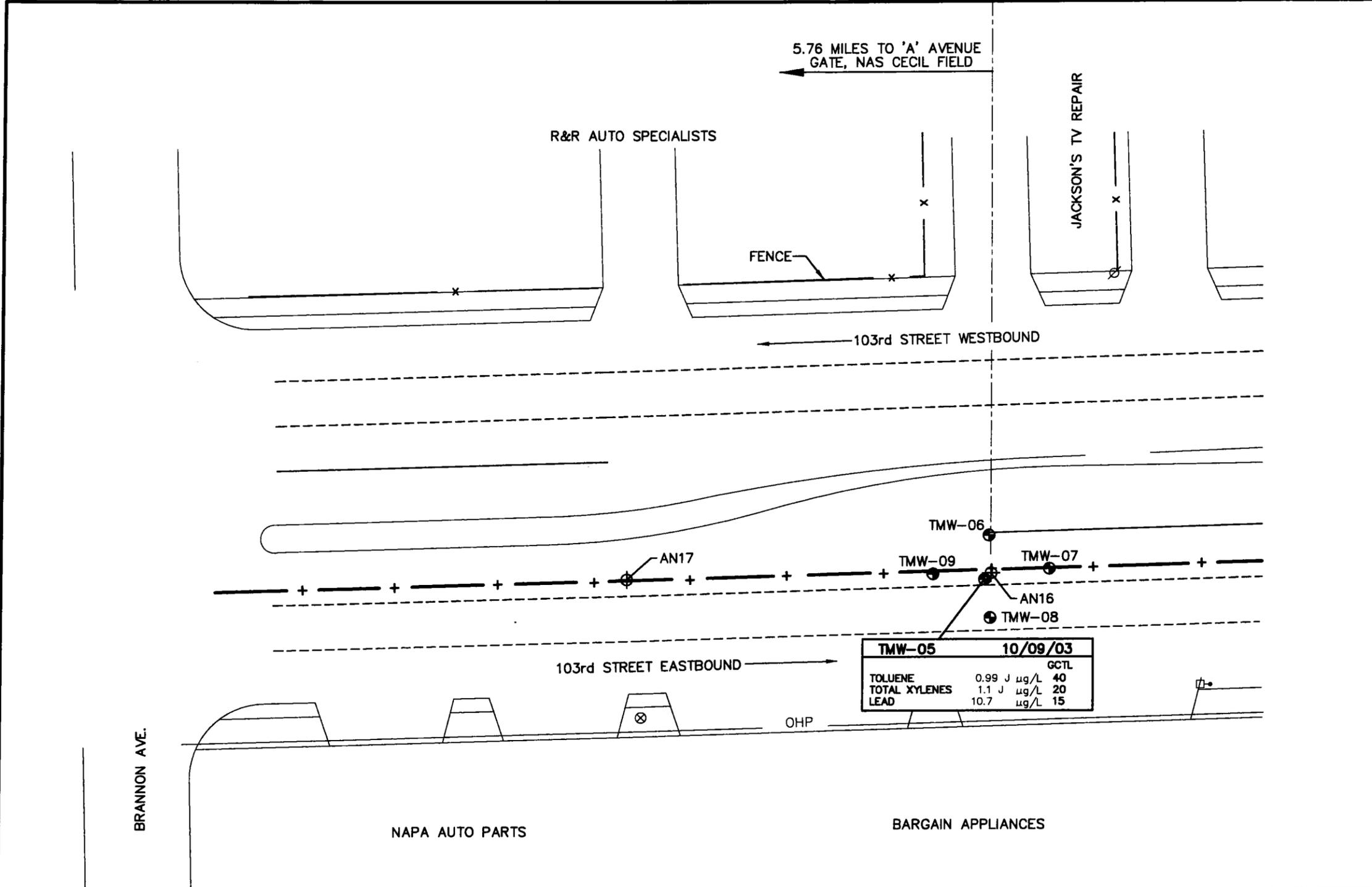
GROUNDWATER ANALYTICAL RESULTS
CF-AN05
NASJAX TO NASCF
JET FUEL PIPELINE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0013	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 3-5	REV. 0

**Table 3-11
Groundwater Analytical Results for CF-AN16**

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	GCTL ¹	TMW-05
		10/9/2003
VOCs (USEPA Method 8260B) (µg/L)		
Benzene	1	< 1
Ethylbenzene	30	< 1
Toluene	40	0.99 J
Total Xylenes	20	1.1 J
MTBE	50	< 1
1,2 Dichloroethane	3	< 1
PAHs (USEPA Method 8310) (µg/L)		
Naphthalene	20	< 2.2
1-methylnaphthalene	20	< 2.2
2-methylnaphthalene	20	< 2.2
Acenaphthylene	210	< 4.3
Acenaphthene	20	< 4.3
Phenanthrene	210	< 2.2
Anthracene	2100	< 2.2
Fluoranthene	280	< 2.2
Fluorene	280	< 2.2
Pyrene	210	< 2.2
Benzo(a)anthracene	0.2	< 0.22
Chrysene	4.8	< 2.2
Benzo(b)fluoranthene	0.2	< 0.22
Benzo(k)fluoranthene	0.5	< 0.22
Benzo(a)pyrene	0.2	< 0.22
Dibenz(a,h)anthracene	0.2	< 0.22
Benzo(g,h,i)perylene	210	< 0.22
Indeno(1,2,3-cd)pyrene	0.2	< 0.22
Ethylene Dibromide (USEPA Method 504.1) (µg/L)	0.02	< 0.018
TRPH (FDEP Method FL-PRO) (mg/kg)	5	< 0.25
Lead (SW846 6010B) (µg/L)	15	10.7
Notes:		
¹ Chapter 62-777, FAC (August, 1999)		
< = concentration less than value indicated		
J = estimated value		



NOTE:

- SOIL AND GROUNDWATER LABORATORY ANALYTICAL RESULTS INDICATED NO CONTAMINANTS ABOVE FDEP TARGET LEVELS IN EACH OF THE BORINGS.

LEGEND:

- OHP OVERHEAD TRANSMISSION LINE
- ⊗ MANHOLE COVER
- ⊕ TEMPORARY MONITORING WELLS
- ⊕ ANOMALY OR VALVE LOCATION
- +— JET FUEL PIPELINE
- GCTL GROUNDWATER CLEANUP TARGET LEVELS

0 30 60
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY MF	DATE 01/06/04
CHECKED BY	DATE
COST/SCHED-AREA	
SCALE AS NOTED	

DEPARTMENT OF THE ARMY
ENGINEER REGIMENT
AVIATION BRIGADE

GROUNDWATER ANALYTICAL RESULTS
CF-AN16
NASJAX TO NASCF
JET FUEL PIPELINE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0013	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 3-6	REV. 0

Table 3-12
Fixed-Base Laboratory Groundwater Analytical Results for CF-AN14
 Site Assessment Report Addendum
 NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
 Naval Air Station Cecil Field
 Jacksonville, Florida

Compound	GCTL ¹	MW-01	MW-01
		12/15/1999	2/9/2000
VOCs (µg/L)			
Benzene	1	NA	NA
Ethylbenzene	30	NA	NA
Toluene	40	NA	NA
Total Xylenes	20	NA	NA
MTBE	50	NA	NA
1,2 Dichloroethane	3	NA	NA
PAHs (USEPA Method 8310) (µg/L)			
Naphthalene	20	0.50 U	0.50 U
1-methylnaphthalene	20	1.0 U	1.0 U
2-methylnaphthalene	20	1.0 U	1.0 U
Acenaphthylene	210	1.0 U	1.0 U
Acenaphthene	20	0.50 U	0.50 U
Phenanthrene	210	1.0 U	1.0 U
Anthracene	2100	0.050 U	0.20 U
Fluoranthene	280	0.13 I	0.10 U
Pyrene	210	0.050 U	0.10 U
Benzo(a)anthracene	0.2	0.050 U	0.10 U
Chrysene	4.8	0.050 U	0.10 U
Benzo(b)fluoranthene	0.2	0.32	0.10 U
Benzo(k)fluoranthene	0.5	0.050 U	0.10 U
Benzo(a)pyrene	0.2	0.060 I	0.10 U
Dibenz(a,h)anthracene	0.2	0.10 U	0.10 U
Benzo(g,h,i)perylene	210	0.10 U	0.10 U
Indeno(1,2,3-cd)pyrene	0.2	0.050 U	0.10 U

Notes:
¹Chapter 62-777, FAC (August, 1999)
BOLD = exceeds GCTL
 NA = not analyzed
 U = no constituents detected
 I =

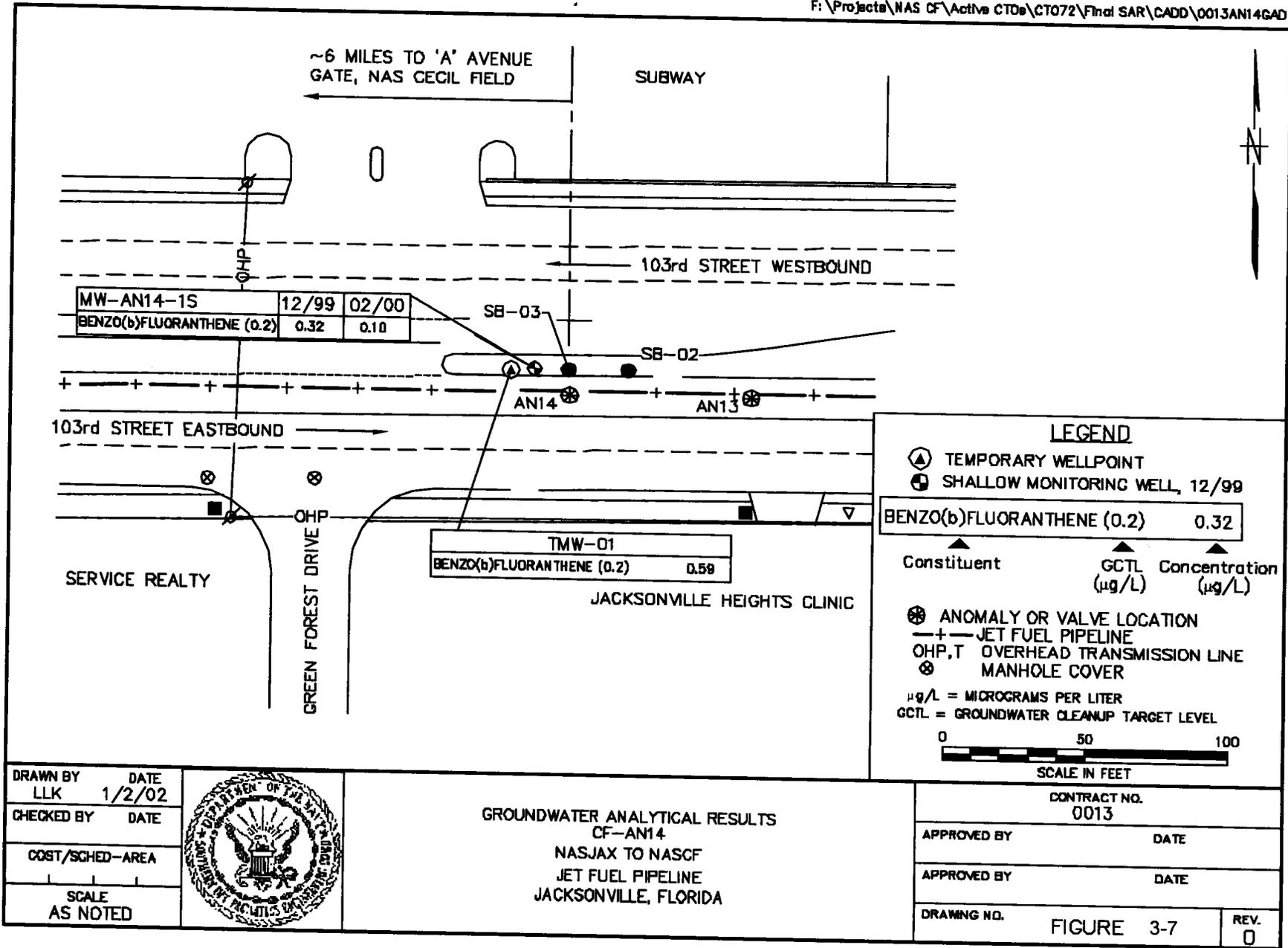


Table 3-13
Fixed-Base Laboratory Groundwater Analytical Results for CF-VA02

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	GCTL ¹	MW-1	MW-1	MW-1
		12/13/1999	12/30/1999	11/21/2003
VOCs (USEPA Method 8021B or 8260B) (µg/L)				
Benzene	1	NA	ND	< 1.0
Ethylbenzene	30	NA	ND	< 1.0
Toluene	40	NA	ND	< 1.0
Total Xylenes	20	NA	ND	< 3.0
MTBE	50	NA	ND	< 1.0
1,2-Dichloroethane	3	NA	ND	< 1.0
PAHs (USEPA Method 8270 or 8310) (µg/L)				
Naphthalene	20	ND	ND	0.20
1-methylnaphthalene	20	ND	ND	< 0.10
2-methylnaphthalene	20	ND	ND	< 0.10
Acenaphthylene	210	ND	ND	< 0.10
Acenaphthene	20	ND	ND	< 0.10
Phenanthrene	210	ND	ND	< 0.10
Anthracene	2100	ND	ND	< 0.10
Fluoranthene	280	ND	ND	< 0.10
Fluorene	280	ND	ND	< 0.10
Pyrene	210	ND	ND	< 0.10
Benzo(a)anthracene	0.2	ND	ND	< 0.10
Chrysene	4.8	ND	ND	< 0.10
Benzo(b)fluoranthene	0.2	ND	ND	< 0.10
Benzo(k)fluoranthene	0.5	ND	ND	< 0.10
Benzo(a)pyrene	0.2	ND	ND	< 0.10
Dibenzo(a,h)anthracene	0.2	ND	ND	< 0.10
Benzo(g,h,i)perylene	210	ND	ND	< 0.10
Indeno(1,2,3-cd)pyrene	0.2	ND	ND	< 0.10

Notes:

¹Chapter 62-777, FAC (August 1999)

BOLD = exceeds GCTLs

NA = not analyzed

ND = no constituents detected

< = concentration less than value indicated

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 CF-AN05

The results of the supplemental soil and groundwater investigation conducted at site CF-AN05 indicate the following:

- Free product was not detected at the site.
- Excessively contaminated soil was not detected at the site.
- Concentrations of all COCs in soil were below SCTLs
- Concentrations of all COCs in groundwater were below GCTLs.

Based on these results and the information provided in the original SAR, NFA is recommended for site CF-AN05.

4.2 CF-AN16

The results of the supplemental soil and groundwater assessment conducted at site CF-AN16 indicate the following:

- Free product was not detected at the site.
- Excessively contaminated soil was not detected at the site.
- Concentrations of all COCs in soil were below SCTLs
- Concentrations of all COCs in groundwater were below GCTLs.

Based on these results and the information provided in the original SAR, NFA is recommended for site CF-AN16.

4.3 CF-AN14

Clarification of the sampling dates and analytical results for monitoring well CF-AN14-MW1 indicates that the concentrations of all COCs were below their respective GCTLs in the groundwater sample collected in February 2000. Based on these results and the information provided in the original SAR, NFA is recommended for site CF-AN14.

4.4 CF-TH03

The supplemental soil investigation was conducted at CF-TH03 to further delineate the extent of contaminated soil. Specifically, to delineate a benzo(a)pyrene exceedance reported in SB-08 located in the northwest portion of the site, a benzo(a)pyrene exceedance in SB-16 located in the northeast portion of the site, and an OVA exceedance in SB-26 located in the northeast portion of the site.

To delineate the benzo(a)pyrene exceedance reported in SB-08, soil boring SB-35 was installed to the west of SB-08. The laboratory analytical results indicate that the concentration of benzo(a)pyrene was below the method detection limit in SB-35. However, TRPH and xylenes were detected in SB-35 at concentrations that exceeded their respective SCTLs. Although TRPH and xylene exceedances were detected in SB-35, these COCs were not detected in any of the other borings located in this portion of the site. This suggests that the contamination detected in this boring may not be associated with the pipeline. In addition, SB-35 is located just outside the limits of the planned road widening project being conducted by the City of Jacksonville, and is within the FDOT ROW. Therefore, it is recommended that this area be included in the memorandum of agreement to be negotiated with the FDOT for other sites located within the FDOT ROW.

To delineate the benzo(a)pyrene exceedance reported in SB-16, soil boring SB-26 was installed to the north of SB-16 and SB-28 was installed to the west of SB-16. The laboratory analytical results indicate that the concentration of benzo(a)pyrene was below the method detection limit in SB-26. The concentration of benzo(a)pyrene reported in SB-28 exceeded the SCTL, however, no borings could be installed further to the west due to the presence of underground utilities. Based on the results of the supplemental soil investigation, the extent of the benzo(a)pyrene exceedance reported in SB-16 has been delineated to the north by the soil sample collected from SB-26. The data from SB-28 indicates that the extent of the plume is not delineated to the west of SB-16, however, this area will be excavated during the road widening activities.

To delineate the OVA exceedance reported in SB-26, soil borings SB-29 through SB-34 were installed to the north and east of SB-26. The laboratory analytical results indicate that the concentration of TRPH exceeded the SCTL in SB-31 and SB-33 located to the northeast of SB-26. However, these soil borings are located a significant distance from the pipeline. This suggests that the contamination detected in this area may not be associated with the pipeline. In addition, this area is located outside the limits of the planned road widening project and is within the FDOT ROW. Therefore, it is recommended that this area be included in the memorandum of agreement to be negotiated with the FDOT for other sites located within the FDOT ROW.

4.5 CF-VA02

The laboratory analytical results from the groundwater sample collected from monitoring well CEF-VA02-MW1 indicate that the concentrations of all COCs were below their respective GCTLs. Based on these results and the information provided in the original SAR, No Further Action is recommended for site CF-VA02.

REFERENCES

TtNUS, 2002. "Site Assessment Report for Jet Fuel Pipeline". NASCF, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOCM, North Charleston, South Carolina. May.

APPENDIX A
FDEP REVIEW LETTER OF PIPELINE SAR
DATED SEPTEMBER 30, 2002



Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

September 30, 2002

Mr. Wayne Hansel
Code ES245 (UST RPM)
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, South Carolina 29419-9010

RE: Site Assessment Report, Jet Fuel Pipeline, Naval Air Station
Cecil Field, Jacksonville, Florida

Dear Mr. Hansel:

I have completed the review of the Site Assessment Report, Jet Fuel Pipeline, Naval Air Station Cecil Field, dated April 2002 (received May 3, 2002, errata page received June 12, 2002), prepared and submitted by Tetra Tech NUS, Inc. The report documents site assessment activities at 19 pipeline anomalies, 11 valve box locations and a location at the intersection of 103rd Street and Westconnett Boulevard. Originally, the work conducted in investigating these potential petroleum discharges along the Jet Fuel Pipeline between NAS Cecil Field and NAS Jacksonville amounted to little more than petroleum closure assessments as specified in Chapter 62-761, Florida Administrative Code (F.A.C.). If contamination was detected, further site assessment was conducted to document the horizontal and vertical extent of contamination as required by Chapter 62-770, F.A.C.

Petroleum contamination was not detected in soil or groundwater at concentrations exceeding soil or groundwater cleanup target levels at pipeline anomalies AN03, AN04, AN06, AN07, AN10, AN12, AN13, AN15, AN17, AN18, AN19, AN20 and AN21 and valves VA07, VA10, VA12, VA 13 and VA15. Therefore, No Further Action is warranted and the Navy is not required to conduct further site assessment in accordance with Chapter 62-770, F.A.C.

Petroleum contamination was detected in soil at concentrations exceeding the Department's residential soil cleanup target levels at isolated sampling locations at pipeline anomalies AN08 and AN11. Based upon a statistical analysis of the data collected, the calculated risk, based upon exposure to

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Mr. Wayne Hansel
Jet Fuel Pipeline
Naval Air Station Cecil Field
September 30, 2002
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the areas around AN08 and AN11, is within the Department's acceptable risk for unrestricted useage. Therefore, No Further Action is warranted and the Navy is not required to conduct further site assessment in accordance with Chapter 62-770, F.A.C.

Petroleum contamination was detected in groundwater at valve VA11. The petroleum contamination detected is consistent with that found migrating from the Lil' Champ Food Store #80 (FDEP ID#8507097) at 7211 103rd Street, Jacksonville. Site assessments conducted on the petroleum release from that location indicate that a BTEX and MTBE plume has migrated to the location of valve VA11. That these volatile contaminants are mainly associated with gasoline and not JP-5 further indicates that the contamination detected was not from a release of JP-5 from the Navy pipeline. Therefore, No Further Action is warranted and the Navy is not required to conduct further assessment activities at this location.

The report proposes soil excavation at valves VA06 and VA09 and at TH03, an area of soil contamination at the intersection of 103rd Street and Westconnett Boulevard. Based upon the information provided in the report, the areal extent of contaminated soil appears to have been delineated at valves VA06 and VA09 and the proposed soil excavations appear adequate to remediate the sites to levels protective for unrestricted useage. The extent of contaminated soil at TH03 does not appear to have been completely delineated. In conversations with the Navy concerning this site, it is understood that the contaminated soil will be excavated by the City of Jacksonville's contractors during the proposed widening of Westconnett and that the Navy will be responsible for transporting and disposing of the contaminated soil. The Department agrees that this is an acceptable means of remediating contaminated soil at this site, but the Department will require confirmatory sampling in order to document that contaminated soil does not remain after the roadwork has been completed.

Petroleum contaminated soil exceeding the Department's SCTLs was detected at pipeline anomaly AN09 and valves VA08 and VA14. The report proposes that risks from exposure to contaminated soil be managed by implementing institutional controls restricting these areas from residential development. The rationale for pursuing institutional controls at AN09, VA08 and VA14 is that excavating soils from the sites would cause road closures and possibly create road stability issues. As the Department of Transportation is the owner of the property at AN09, VA08 and

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VA14, they would need to be the implementer of any institutional controls. The Department is currently working on a Memorandum of Understanding with the Department of Transportation which may address the implementation of institutional controls at DOT owned properties. The Navy will be contacted when the Memorandum of Understanding has been executed.

For pipeline anomalies AN05, AN14 and AN16 and valve VA02, I cannot concur that no further action is warranted at this time due to questions concerning the assessment conducted. I have the following comments that need to be addressed:

- (1) The soil and groundwater samples at AN05 were collected at distances from 50 feet to approximately 100 feet from the actual location where the anomaly was detected in the pipeline. It doesn't appear these locations are close enough to the pipeline to determine if a release of petroleum product has occurred in the past. Also, I could not find a rationale for collecting a soil sample from SB-04 for laboratory analysis as this location was not where the highest OVA reading was detected.
- (2) For AN14, in section 3.12.5 it states that an exceedance of the groundwater cleanup target levels (GCTLs) was detected in permanent monitoring well CF-AN14-1S from a sample collected December 15, 1999. Table 3.12.3 indicates that the sample was collected October 15, 2000. Also, in the section it states that the monitoring well was resampled on February 9, 2000 and that no exceedance of GCTLs was detected. However, this information was not provided in Table 3.12.3 or elsewhere in the report.
- (3) The soil and groundwater samples at AN16 were collected at distances from 30 to 35 feet from the actual location where the anomaly was detected in the pipeline. It doesn't appear these locations are close enough to the pipeline to determine if a release of petroleum product has occurred in the past.
- (4) At valve VA02, OVA measurements and direct-push groundwater sampling indicate a potential release of petroleum product from the pipeline. While this was not confirmed by a groundwater sample collected from permanent well CF-VA02-MW-1, I believe another sample should be collected from this well in order to confirm that groundwater has not been impacted.

Mr. Wayne Hansel
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If I can be of any further assistance with this matter,
please contact me at (850) 245-8997.

Sincerely,



David P. Grabka, P.G.
Remedial Project Manager

cc: Scott Glass, Southern Division
Debbie Vaughn-Wright, USEPA Region 4
Paul Calligan, Tetra Tech NUS, Tampa
Mark Malewicki, CH2M Hill Constructors, Inc.
Mike Fitzsimmons, FDEP Northeast District

TJB  JJC  ^{for} ESN 

APPENDIX B
SOIL BORING LOGS



Tetra Tech NUS, Inc.

Boring Log

Page 1 of 1

PROJECT NAME: NASCF-NASJAX Fuel Pipeline BORING ID: CF- TH3- SB 33
 PROJECT NUMBER: N0013 DATE: 10/8/03 - 10/9/03 mo
 DRILLING COMPANY: Prosonic GEOLOGIST: Mervin Dale
 DRILLING RIG: SS Hand Auger DRILLER: T. J. Lutes

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION		U S C S. *	Remarks
				Color	Material Classification		
	0-3"			black	asphalt		
	3"-13'			lt. tan	linerock		
	1.3'-2.5'			brown	silty fine sand	SM	dry
	2.5'-3.5'			yel. brn	silty fine sand	SM	damp
	3.5'-5.25'			gray	sandy clay	CL	rollable, damp
							Some org. mat staining
					EBB @ 5.25'		most @ 5.25'
							Note: Need to proceed.
							tough to Hand Auger
							thru this clay

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____

Converted to Well: Yes _____ No X Well I.D. #: _____

APPENDIX C
DPT SAMPLE LOG SHEETS



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF-ANOS SB05
 Project No.: N0013 Sample Location: JAX ANOS
 Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA								
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-ANOS - TMD 05	10/7/03	0005	clear					
Total Depth: <u>98' HD</u>		DTW: <u>55'</u>		Stuckup:	NA	Screen Int:	<u>5-9'</u>	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF-ANOS - SB05 Date: 10/7/03 Time Start: 2226
 Location: _____ Time End: 0230
 Desc.: _____ Time Sample: 0200
 Amount Grout: 1/2 bucket

Depth	MA Sample ID	PID (FID) READINGS			Remarks
		Initial	Filtered	Total	
1.5-2	CF-ANOS-SB	0.0	—	0.0	2226/2231
2.5-3		0.0	—	0.0	2229/2234
2.5-3	CF-ANOS-SB05	—	—	—	0200 (Lab Sample)

(25.7 gal H₂O / 94.15 lbs)
see Fig 3
MA SB05
TYPE I Portland

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260B	Methanol, H ₂ O	3- 40ml vials	Accutest	yes
8310	NONE	1- 4oz jar	"	yes
FL-PRO	NONE	1- 4oz "	"	yes

OBSERVATIONS / NOTES

FID CAL. 99.0 PPM Field Log Book No. 3-1

Drilling Area Background (PPM): 0.0
Borehole = 0.0 ppm

LAB INFO

LAB: ACCUTEST

COC #: 2346

Check if Collected:

MS / MSD DUPLICATE / ID No.: None

Signature(s): M. Dale



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF-ANOS-SB06
 Project No.: N0013 Sample Location: JAX ANOS
 Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA									
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor	
CF-ANOS-TMW06	10/8/03	0058	Lt. brn						
Total Depth:		10'	DTW:	4.5'	Sticcup:	NA	Screen Int:	6-10'	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF-ANOS Date: 10/8/03 Time Start: 2320
 Location Desc.:  Time End: 0230
 Time Sample: 0218
 Amount Grout: 1/2 bucket

Depth	Sample ID	-PID/(FID) READINGS			Remarks
		Initial	Filtered	Total	
1.5-2		0.0	-	0.0	TIME/SCREEN
2.5-3					2332
3-3.5		0.0	-	0.0	2332/2337
3-3.5	CF-ANOS-SB06	-	-	-	LAB sample 0218

Soil

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
8260	Methanol/H ₂ O	3-40 ml vials	Accutest	yes
8310	None	1-4oz jar	"	yes
FL-PL0	None	1-4oz jar	"	yes

OBSERVATIONS / NOTES		LAB INFO	
FID CAL	<u>99.0</u> PPM	Field Log Book No.	<u>13-1</u>
Drilling Area Background (PPM):	<u>0.0</u>	LAB:	<u>Accutest</u>
		COC #:	<u>2346</u>

Check if Collected:

MS / MSD DUPLICATE / ID No.: None

Signature(s): M. W. Dale



Project / Site: NASC-FASJAX Fuel Pipeline Soil Boring ID No.: CF- ANOS SBO5⁰⁷ no
 Project No.: N0013 Sample Location: JAX ANOS
 Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA									
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor	
CF- ANOS- TMW07	10/8/03	0020	clear						
CF- ANOS- TMW07	10/8/03	0135	clear						
Total Depth:	10'	DTW:	5.5'	Stickup:	NA	Screen Int:	6-10'		

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA				
Soil Boring ID:	CF-	Date:	10/7/03	
Location Desc.:			Time Start:	2247
			Time End:	0230
			Time Sample:	0233
			Amount Grout:	1/2 bucket

Depth	Sample ID	PID - FID READINGS			Remarks
		Initial	Filtered	Total	
1.5-2'		0.0	—	0.0	2253 / 2258
2.5-3'		0.0	—	0.0	2257 / 2302
2.5-3	CF-ANOS-SBO7	—	—	—	Lab sample (0233)

See SBO5 for cement mix

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
8260B	HCL	3- 40ml vials	Accutest	yes
8310	None	2- 1 liter amber	"	↓
504.1	None	3- 40 ml vials	"	↓
690B	HNO ₃	1- 250 ml HOPE	"	↓
FL-PRO	H ₂ SO ₄	2- 1 liter amber	"	↓
8260	Meth / H ₂ O	3- 40 ml vials	"	yes
8310	None	1- 402 jar	"	↓

FL-PRO OBSERVATIONS / NOTES: None 1- 402 jar

FID CAL: 99 PPM Field Log Book No. 13-1 LAB: Accutest

Drilling Area Background (PPM): 0.0 COC #: 2346

Check if Collected: MS / MSD DUPLICATE / ID No.: None Signature(s): M. W. Dale

GU }
SOI }



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF-ANOS-SB08
 Project No.: N0013 Sample Location: JAX ANOS
 Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA									
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor	
CF-ANOS-TM08	10/8/03	0330	4.5m						
Total Depth:		10'	DTW:	5.5'	Sticker:	NA	Screen Int:	6-10' 6/8	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA				
Soil Boring ID:	CF-ANOS-SB08	Date:	10/8/03	
Location:	_____ ← SB08		Time Start:	0250
Desc.:	_____		Time End:	0330
			Time Sample:	0315
			Amount Grout:	1/2 bucket

Depth	Sample ID	PID (FID) READINGS			Remarks TIME / SRN
		Initial	Filtered	Total	
1.5-2		0.0	—	0.0	0256 / 0301
3-3.5		0.0	—	0.0	0300 / 0305
3-3.5	CF-ANOS-SB08	—	—	—	Lab sample (0315)

See SB08 log sheet for cement max.

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
8260	methanol/1/2	3-40 ml vials	Accutest	YPS
8360	None	1-4oz jar	"	↓
FL-PRO	None	1-4oz jar	"	↓

OBSERVATIONS / NOTES		LAB INFO
FID CAL. <u>99.0</u> PPM	Field Log Book No. <u>13-1</u>	LAB: <u>Accutest</u>
Drilling Area Background (PPM): <u>0.0</u>		COC #: <u>2346</u>

Check if Collected:

MS / MSD DUPLICATE / ID No.: None

Signature(s): M. Dale

Soil



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF-AN16-SB05
 Project No.: N0013 Sample Location: AN16
 Temporary Monitoring Well Sampler: _____ M. Dale
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA									
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor	
CF-AN16-TMWDS	10/9/03	2215	dk.br						
CF-AN16-TMWDS	10/10/03	0237	lt.br						
Total Depth: <u>2-16'</u>		DTW: <u>8'</u>	Stickup: <u>NA</u>	Screen Int: <u>8-12'</u>					

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF-AN16-SB05 Date: 10/9/03 Time Start: 2139
 Location Desc.: (5) ↑ N Time End: 2237
MS Time Sample: 2235
 Amount Grout: 2.5 g/hole

Depth	Sample ID	-PID (FID) READINGS			Remarks Time/Screen
		Initial	Filtered	Total	
1-2		0.0	—	0.0	2140 / 2145
3-4		0.0	—	0.0	2144 / 2149
5-6		0.0	—	0.0	2154 / 2159
7-8		0.0	—	0.0	2157 / 2202
9-10		0.0	—	0.0	2158 / 2203
5-6	CF-AN16-SB05	—	—	—	Mobile (2204)
5-6	CF-AN16-SB05	—	—	—	Fixed (2235)

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
8260 (water)	HCL	3-40 ml vials	Accutest	yes
8310 (water)	none	2 - 1 liter glass ambers	Accutest	↓
FL-PRO (water)	H2SO4	2 - liter glass ambers	Accutest	↓
504.1 (water)	none	3-40 ml vials	Accutest	↓
6010B (water)	HN03	1 - 250 ml HDPE	Accutest	↓
8260 (Soil)	CH3OH/H2O	3-40 ml vials	Accutest	yes
8310 (Soil)	none	1 - 4 oz glass jar	Accutest	↓
FL-PRO (Soil)	none	1 - 4 oz glass jar	Accutest	↓

OBSERVATIONS / NOTES

FID CAL. 99.8 PPM Field Log Book No. _____ 13-1
 Drilling Area Background (PPM): 0.0 LAB: Accutest
pH = 0.0, BE = 0.0 COC #: 2347

Check if Collected: MS / MSD DUPLICATE / ID No.: None Signature(s): M. Dale



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF-AN16-SB06
 Project No.: N0013 Sample Location: AN16
 Temporary Monitoring Well Sampler: M. Dale
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA								
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-AN16-TMP06	10/9/03	2204	dklm					
Total Depth:		12'	DTW:	8'	Stckup:	NA	Screen Int:	8-12'

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF-AN16-SB06 Date: 10/9/03 Time Start: 2242
 Location Desc.: NTS Time End: 0237
 Time Sample: 2322
 Amount Grout: 2.5 g/hole

Depth ft	Sample ID	-PID (FID) READINGS			Remarks Time/Screen
		Initial	Filtered	Total	
1-2		0.0	—	0.0	2243 / 2248
3-4		0.0	—	0.0	2245 / 2250
5-6		0.0	—	0.0	2255 / 2300
7-8		0.0	—	0.0	2256 / 2301
9-10		0.0	—	0.0	2258 / 2303
5-6	CF-AN16-SB06	—	—	—	mobile (2306)
5-6	CF-AN16-SB06	—	—	—	fixed (2322)

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
8260 (water)	HCL	3-40 ml vials	Accutest	NO
8310 (water)	none	2 - 1 liter glass ambers	Accutest	↓
FL-PRO (water)	H2SO4	2 - liter glass ambers	Accutest	↓
504.1 (water)	none	3-40 ml vials	Accutest	↓
6010B (water)	HN03	1 - 250 ml HDPE	Accutest	↓
8260 (Soil)	CH3OH/H2O	3-40 ml vials	Accutest	yes
8310 (Soil)	none	1 - 4 oz glass jar	Accutest	↓
FL-PRO (Soil)	none	1 - 4 oz glass jar	Accutest	↓

OBSERVATIONS / NOTES

FID CAL. 99.8 PPM Field Log Book No. _____ 13-1 LAB: Accutest
 Drilling Area Background (PPM): 0.0 COC #: 2347
BH=0.0, BZ=0.0

Check if Collected: MS / MSD DUPLICATE / ID No.: _____ Signature(s): M. Dale



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF-AN16-SB07
 Project No.: N0013 Sample Location: AN16
 Temporary Monitoring Well Sampler: M. Dale
 Soil Boring
 Other:

GROUNDWATER SAMPLING DATA								
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-AN16-TMND7	10/10/03	0000	dk. brn					
Total Depth:		12'	DTW:	8'	Stickup:	NA	Screen Int:	8-12' 618.

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA
 Soil Boring ID: CF-AN16-SB07 Date: 10/10/03 Time Start: 2333
 Location: AN Time End: 0237
 Desc.: SB07 NTS Amount Grout: 2.5 g/hole
 Time Sample: 0023

Depth	Sample ID	-PID / FID READINGS			Remarks Time/Screen
		Initial	Filtered	Total	
1-2.5' - 2.5'		0.0	-	0.0	2334 / 2339
3-4		0.0	-	0.0	2336 / 2341
5-6		0.0	-	0.0	2348 / 2353
7-8		0.0	-	0.0	2350 / 2355
9-10		0.0	-	0.0	2351 / 2356
5-6	CF-AN16-SB07	-	-	-	2353 (mobile)
5-6	CF-AN16-SB07	-	-	-	0023 (fixed)

SAMPLE COLLECTION INFORMATION					
Analysis	Preservative	Container Requirements	Laboratory	Collected	
8260 (water)	HCL	3-40 ml vials	Accutest	NO	
8310 (water)	none	2 - 1 liter glass ambers	Accutest		
FL-PRO (water)	H2SO4	2 - liter glass ambers	Accutest		
504.1 (water)	none	3-40 ml vials	Accutest		
6010B (water)	HN03	1 - 250 ml HDPE	Accutest		
8260 (Soil)	CH3OH/H2O	3-40 ml vials	Accutest		
8310 (Soil)	none	1 - 4 oz glass jar	Accutest		400
FL-PRO (Soil)	none	1 - 4 oz glass jar	Accutest		

OBSERVATIONS / NOTES
 FID CAL. 99.8 PPM Field Log Book No. 13-1 LAB INFO
 Drilling Area Background (PPM): 0.0 LAB: Accutest
BH4 B7 = 0.0 ppm COC #: 2347

Check if Collected:
 MS / MSD DUPLICATE / ID No.: none Signature(s): M. Dale



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF-AN16-SB08
 Project No.: N0013 Sample Location: AN16
 Temporary Monitoring Well Sampler: M. Dale
 Soil Boring
 Other:

GROUNDWATER SAMPLING DATA									
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor	
CF-AN16-TM208	10/10/03	0100	11K-brn						
Total Depth:		12'	DTW:	-87.5'	Stickup:	NA	Screen Int:	8-12' 5 1/2	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF-AN16-SB08 Date: 10/10/03 Time Start: 0031
 Location Desc.: (Sketch of well with depth markers) Time End: 0237
 Time Sample: 0114
 Amount Grout: 2.5 g/hole

Depth	Sample ID	PID / FID READINGS			Remarks Time/Screen
		Initial	Filtered	Total	
1-2		0.0	—	0.0	0032 / 0037
2-4		0.0	—	0.0	0035 / 0040
3-6		0.0	—	0.0	0049 / 0054
7-8		0.0	—	0.0	0051 / 0056
9-10		0.0	—	0.0	0053 / 0058
5-6	CF-AN16-SB08	—	—	—	0056 (mobile)
5-6	CF-AN16-SB08	—	—	—	0114 (fixed)

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
8260 (water)	HCL	3-40 ml vials	Accutest	NO
8310 (water)	none	2 - 1 liter glass ambers	Accutest	↓
FL-PRO (water)	H2SO4	2 - liter glass ambers	Accutest	
504.1 (water)	none	3-40 ml vials	Accutest	
6010B (water)	HN03	1 - 250 ml HDPE	Accutest	
8260 (Soil)	CH3OH/H2O	3-40 ml vials	Accutest	yes
8310 (Soil)	none	1 - 4 oz glass jar	Accutest	↓
FL-PRO (Soil)	none	1 - 4 oz glass jar	Accutest	

OBSERVATIONS / NOTES

FID CAL. 99.8 PPM Field Log Book No. 13-1 LAB INFO
 Drilling Area Background (PPM): 0.0 BA = BE = 0.0 ppm LAB: Accutest
 COC #: 2347

Check if Collected:

MS / MSD DUPLICATE / ID No.: None Signature(s): M. Dale



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF- AN16- SB09
 Project No.: N0013 Sample Location: AN16
 Temporary Monitoring Well Sampler: M. Dale
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-AN16- FMW09 <u>MD</u>	<u>10/10/03</u>	<u>0156</u>	<u>H. brn</u>					
Total Depth:	<u>12'</u>	DTW:	<u>8'</u>	Stickup:	<u>NA</u>	Screen Int:	<u>8-12' b/s.</u>	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID:	<u>CF-AN16- SB09</u>	Date:	<u>10/10/03</u>	Time Start:	
Location Desc.:	<u>09 - . . .</u>		<u>↑ N</u>	Time End:	
			<u>NTS</u>	Time Sample:	<u>0217</u>
				Amount Grout:	<u>2.5 g/hole</u>

PID (FID) READINGS

Depth	Sample ID	PID (FID) READINGS			Remarks Time/Screen
		Initial	Filtered	Total	
<u>1-2</u>		<u>0.0</u>	<u>—</u>	<u>0.0</u>	<u>0131 / 0136</u>
<u>3-4</u>		<u>0.0</u>	<u>—</u>	<u>0.0</u>	<u>0134 / 0139</u>
<u>5-6</u>		<u>0.0</u>	<u>—</u>	<u>0.0</u>	<u>0142 / 0147</u>
<u>7-8</u>		<u>0.0</u>	<u>—</u>	<u>0.0</u>	<u>0143 / 0148</u>
<u>9-10</u>		<u>0.0</u>	<u>—</u>	<u>0.0</u>	<u>0145 / 0150</u>
<u>5-6</u>	<u>CF-AN16- SB09</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>0149 (mob: les sample)</u>
<u>5-6</u>	<u>CF-AN16- SB09</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>0217 (fixed)</u>

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260 (water)	HCL	3-40 ml vials	Accutest	
8310 (water)	none	2 - 1 liter glass ambers	Accutest	
FL-PRO (water)	H2SO4	2 - liter glass ambers	Accutest	
504.1 (water)	none	3-40 ml vials	Accutest	
6010B (water)	HN03	1 - 250 ml HDPE	Accutest	
8260 (Soil)	CH3OH/H2O	3-40 ml vials	Accutest	
8310 (Soil)	none	1 - 4 oz glass jar	Accutest	<u>yes</u>
FL-PRO (Soil)	none	1 - 4 oz glass jar	Accutest	<u>✓</u>

OBSERVATIONS / NOTES

FID CAL. 99.8 PPM Field Log Book No. _____ 13-1
 Drilling Area Background (PPM): 0.0
BH = BZ = 0.0 ppm

LAB INFO

LAB: Accutest
 COC #: 2347

Check if Collected:

MS / MSD DUPLICATE / ID No.: None

Signature(s): M. Dale



Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF- TH3 - SB26
 Project No.: N0013 Sample Location: JAX TH3
 Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA									
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor	
CF- TH3- SB26	N/A								
Total Depth: <u>—</u>		DTW: <u>—</u>		Stickup: <u>NA</u>	Screen Int: <u>—</u>				

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA									
Soil Boring ID:		CF- TH3 - SB26		Date:	10/8-9/0		Time Start:	2151	
Location Desc.:	About 6' West of CU.			26.1 CU	NTS	CW = R0151	Time End:	0236	
	Amount Grout:		1/2 bucket / pale				Time Sample:	0235	
Depth		Sample ID		Initial	Filtered	Total	Remarks		
1-2				107	25	82	TIME / SCREEN		
2-3				249	25	224	2152 / 2157		
4-4.5				497	39.2	457.8	2154 / 2159		
2-3		CF- TH3 - SB26		—	—	—	(0235) Lab Sample		

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
8261	CH ₃ OH/H ₂ O	3-40 ml vials	Accutest	yes
8310	None	1-4oz jar	"	↓
FL-PL0	None	1-4oz jar	"	↓

OBSERVATIONS / NOTES		LAB INFO
FID CAL <u>99.</u> PPM	Field Log Book No. <u>13-1</u>	LAB: <u>Accutest</u>
Drilling Area Background (PPM): <u>0.0</u> <u>benzoh = 5.2, BZ = 0.0 ppm</u>		COC #: <u>2370</u>

Check if Collected: MS / MSD DUCTATE / ID No.: — Signature(s): M. Dale



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF- TH3-SB28
 Project No.: N0013 Sample Location: JAX-TH3
 [X] Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 [X] Soil Boring
 [] Other: _____

GROUNDWATER SAMPLING DATA								
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-	<u>N/A</u>							
Total Depth: _____		DTW: _____		Backup: <u>NA</u>	Screen Int: _____			

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- TH3-SB28 Date: 10/9/03 Time Start: 0133
 Location Desc.: cf 25' SW ↑ N NTS Time End: 0200
 Time Sample: 0156
 Amount Grout: 1/2 bucket

Depth	Sample ID	-PID (FID) READINGS			Remarks
		Initial	Filtered	Total	
<u>1-2</u>		<u>618</u>	<u>284.7</u>	<u>333.5</u>	<u>0134 / 0139</u>
<u>2-3</u>		<u>502</u>	<u>439.9</u>	<u>621</u>	<u>0136 / 0141</u>
<u>4-4.5</u>		<u>166.4</u>	<u>77.0</u>	<u>89.4</u>	<u>0140 / 0145</u>
<u>1-2</u>	<u>CF-TH3-SB28</u> <u>MO</u>				<u>0156 Lab Sample</u>

Handwritten notes: CW = crosswalk, mix ~ 6 gms / 94 lb bag, Type / Position correct

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
<u>8260</u>	<u>CH₃OH/H₂O</u>	<u>3-40 ml vials</u>	<u>Accutest</u>	<u>400</u>
<u>8310</u>	<u>None</u>	<u>1-4oz jar</u>	<u>↓</u>	<u>↓</u>
<u>FL-PRO</u>	<u>None</u>	<u>1-4oz jar</u>	<u>↓</u>	<u>↓</u>

OBSERVATIONS / NOTES	LAB INFO
FID CAL. <u>99</u> PPM Field Log Book No. <u>13-1</u>	LAB: <u>Accutest</u>
Drilling Area Background (PPM): <u>0.0</u> <u>Borehole = 12, BE = 0.0</u>	COC #: <u>2370</u>

Check if Collected:

MS / MSD DUPLICATE / ID No.: None

Signature(s): M. Dale



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF- TH3 SB29
 Project No.: N0013 Sample Location: JAX TH3
 Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA								
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-								
	<u>N/A</u>	<u>N/A</u>						
Total Depth:		←	DTW:	←	Sticks:	NA	Screen Int:	←

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA			
Soil Boring ID:	<u>CF- TH3 - SB29</u>	Date:	<u>10/8/03</u>
Location:	<u>29 is about 9' north of TN SB-30.</u>	Time Start:	<u>2259</u>
Depth:	<u>1-2</u>	Time End:	<u>2300</u>
	<u>night along crosswalk (low)</u>	Time Sample:	<u>N/A</u>
	<u>NTS</u>	Amount Grout:	<u>1/2 bucket</u>

Depth	Sample ID	PID/FID READINGS			Remarks
		Initial	Filtered	Total	
<u>1-2</u>		<u>42</u>	<u>12</u>	<u>30</u>	<u>TIME/SCREEN 2253/2258</u>

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
<u>8200B</u>	<u>CH₂OH/14.0</u>	<u>3- 40 mL vials</u>	<u>Accutest</u>	<u>NO</u>
<u>8310</u>	<u>None</u>	<u>1- 4oz jar</u>	<u>↓</u>	<u>NO</u>
<u>PL-PRO</u>	<u>None</u>	<u>1- 4oz jar</u>	<u>↓</u>	<u>NO</u>

OBSERVATIONS / NOTES		LAB INFO	
FID CAL.	<u>99</u> PPM	Field Log Book No.	<u>13-1</u>
Drilling Area Background (PPM):	<u>0.0</u>	LAB:	<u>Accutest</u>
	<u>Porehole = 0.0, BE = 0.0</u>	COC #:	<u>N/A</u>

Check if Collected:		Signature(s):
<input type="checkbox"/> MS / MSD	<input type="checkbox"/> DUPLICATE / ID No.: <u>None</u>	<u>M.W. Dale</u>



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF- TH3- SB30
 Project No.: N0013 Sample Location: JAX TH3
 Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA								
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-	N/A							
Total Depth: _____		DTW: _____	Stickup: _____	NA	Screen Int: _____			

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- TH3- SB30 Date: 10/8/03 - 10/9/03 Time Start: 2227
 Location Desc.: SB 30 about 26' CW - 30' NW NTS Time End: 0212
6" east of CW Time Sample: 0211
+ 12' N of sidewalk CW Amount Grout: 1/2 bucket / hole

Depth	Sample ID	PID/FID READINGS			Remarks
		Initial	Filtered	Total	
<u>1-2</u>					
<u>2-2.5 MD</u>		<u>257</u>	<u>126</u>	<u>131</u>	<u>Time / SCM</u>
<u>2-3</u>		<u>127</u>	<u>123</u>	<u>4</u>	<u>2230 / 2235</u>
<u>4-4.5</u>		<u>720</u>	<u>91.2</u>	<u>626.8</u>	<u>2237 / 2242</u>
<u>2-2.5</u>	<u>CF- TH3- SB30</u>	—	—	—	<u>0211 (Lab sample)</u>

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
<u>8260B</u>	<u>CH₂OH/H₂O</u>	<u>3- 40ml vials</u>	<u>Accutest</u>	<u>yes</u>
<u>8310</u>	<u>None</u>	<u>1- 4oz jar</u>	<u>↓</u>	<u>↓</u>
<u>FL-PR0</u>	<u>None</u>	<u>1- 4oz jar</u>	<u>↓</u>	<u>↓</u>

OBSERVATIONS / NOTES FID CAL. 99 PPM Field Log Book No. 13-1

Drilling Area Background (PPM): 0.0 LAB INFO: LAB: ACCUTEST
Bar hole = 46.0, BZ = 0.0 COC #: 2370

Check if Collected: MS / MSD DUPLICATE / ID No.: None Signature(s): M. W. Dale



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF- TH3 - SB31
 Project No.: N0013 Sample Location: JAX TH3
 Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA									
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor	
CF-		N/A							
Total Depth:	←	DTW:	←	Stickup:	NA	Screen Int:	←		

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA					
Soil Boring ID:	<u>CF- TH3 - SB31</u>	Date:	<u>10/2/03 - 10/7/03</u>	Time Start:	<u>0010</u>
Location:	<u>31 W. 1st St. of 7th St. NINE of SB-26.</u>		<u>310 / cu.</u>	Time End:	<u>0252</u>
Depth:	<u>26.0</u>		<u>↑</u>	Time Sample:	<u>0251</u>
			<u>NTJ</u>	Amount Grout:	<u>1/2 bucket / hole</u>

Depth	Sample ID	PID/FID READINGS			TIME	Remarks
		Initial	Filtered	Total		
<u>1-2</u>		<u>81</u>	<u>34</u>	<u>47</u>	<u>0011 / 0016</u>	<u>SCRW</u>
<u>2-3</u>		<u>97</u>	<u>102</u>	<u>1</u>	<u>0013 / 0018</u>	
<u>4-4.5</u>		<u>211</u>	<u>44</u>	<u>167</u>	<u>0017 / 0022</u>	
<u>1-2</u>	<u>CF- TH3 - SB31</u>	—	—	—		<u>Lab Sample (0251)</u>

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
<u>8260B</u>	<u>CH₃OH / H₂O</u>	<u>3-40ml vial</u>	<u>Accutest</u>	<u>YES</u>
<u>8310</u>	<u>NONE</u>	<u>1-402 JAR</u>	↓	↓
<u>FL-PRO</u>	<u>NONE</u>	<u>1-402 JAR</u>	↓	↓

OBSERVATIONS / NOTES			LAB INFO	
FID CAL.	<u>99</u> PPM	Field Log Book No. <u>13-1</u>	LAB:	<u>Accutest</u>
Drilling Area Background (PPM):	<u>0.0</u>		COC #:	<u>2370</u>
<u>Borehole = 207, BZ = 0.0</u>				

Check if Collected:

MS/MSD DUPLICATE / ID No.: none

Signature(s): M. Dale



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF-TH3-32
 Project No.: N0013 Sample Location: JAX TH3
 Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA								
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-		N/A						
Total Depth:		BTW:	Sealup:	NA	Screen Int:			

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF-TH3-SB32 Date: 10/8/03 Time Start: 2341
 Location Desc.: 10' - 30' ← 15' → 32' Time End: 0308
 Amount Grout: 1/2 bucket hole

Depth	Sample ID	-PID (FID) READINGS			Remarks
		Initial	Filtered	Total	
1-2		4	0	4	TIME / SCAN
2-3		115.2	136.9	1015.1	2347 / 2352
4-4.5		92.6	37.8	54.8	2351 / 2354
2-3	CF-TH3-SB32	-	-	-	(0307) Lab sample

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260 B	CH ₃ OH / H ₂ O	3-40ml vials	Accutest	yes
8310	none	1-4oz	↓	↓
Pt-Pb	none	1-4oz	↓	↓

OBSERVATIONS / NOTES: 99 PPM Field Log Book No. 13-1

Drilling Area Background (PPM): 0.0 Boychak = 35, BZ = 0.0

LAB INFO: LAB: Accutest COC #: 2370

Check if Collected: MS / MSD DUPLICATE / ID No.: CF-TH3-S0-DUP

Signature(s): M. Dale



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF-TH3-SB33
 Project No.: N0013 Sample Location: JAX TH3
 Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA									
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor	
CF-		N/A							
Total Depth:	—	DTW:	—	Stickup:	NA	Screen Int:	—		

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA					
Soil Boring ID:	CF-TH3-SB33	Date:	10/9/03	Time Start:	0112
Location Desc.:	4' 30" 9' 33" ← 16' → 32" ↑ N ↓ S NTS	Time End:	0324	Time Sample:	0323
				Amount Grout:	1/2 bucket / 1/2 c

Depth	Sample ID	-PID/FID READINGS			Remarks
		Initial	Filtered	Total	
1-2		49.5	22.7	26.8	TIME / SURF 0113 / 0118
2-3		878	163.2	664.8	0115 / 0120
4-4.5		22.5	10.3	12.2	0117 / 0122
2-3	CF-TH3-SB33	—	—	—	(0323) Lab Sample

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
8260B	CH ₂ OH/H ₂ O	3-40 ml vials	Accutest	yes
8310	None	1-402 jar	↓	↓
PL-PRO	None	1-402 jar	↓	↓

OBSERVATIONS / NOTES		LAB INFO	
FID CAL	<u>99.</u> PPM	Field Log Book No.	<u>13-1</u>
Drilling Area Background (PPM):	<u>0.0</u>	LAB:	<u>Accutest</u>
	<u>bar hole = ; BZ =</u>	COC #:	<u>2370</u>

Check if Collected: MS / MSD DUPLICATE / ID No.: None Signature(s): M.W. Dale



Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF- TH3-SB34
 Project No.: N0013 Sample Location: JAX TH3
 Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 Soil Boring
 Other: _____

GROUNDWATER SAMPLING DATA									
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor	
CF- TH3		N/A							
Total Depth: _____		DTW: _____	Stickup: _____	NA	Screen Int: _____				

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- TH3-SB34 Date: 10/9/03 Time Start: 0048
 Location Deso.: 16' ← 30' → 15' → 32' → 34' Time End: 0338
 ↑ NTS Time Sample: 0337
 Amount Grout: 1/2 bucket whole

Depth	Sample ID	RID/FID READINGS			Remarks
		Initial	Filtered	Total	
1-2		5.1	2.0	3.1	TIME IS CRN
2-3		1094	848	246	0049 / 0054
4-4.5	4.5-5	150	77	77	0055 / 0100
2-3	CF- TH3-SB34	—	—	—	(0337) Lab Sample

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260	CH ₃ OH / H ₂ O	3 - 40 ml vial	Accutest	yes
8310	None	1 - 402 jar	↓	↓
FL-PRO	None	1 - 402 jar	↓	↓

OBSERVATIONS / NOTES FID CAL 99 PPM Field Log Book No. 13-1

Drilling Area Background (PPM): 0.0
borch = 67.6 ppm; BZ = 0.0 ppm

LAB INFO LAB: Accutest
 COC #: 2370

Check if Collected: MS/MSD DUPLICATE / ID No.: None Signature(s): M.W. Dale



Project / Site: NASCF-NASJAX Fuel Pipeline Soil Boring ID No.: CF- TH3-SB35
 Project No.: N0013 Sample Location: JAX TH3
 Temporary Monitoring Well Sampler: M. Dale and D. Siefken
 Soil Boring
 Other:

GROUNDWATER SAMPLING DATA									
Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor	
CF-			N/A						
Total Depth:		DTW:		Stickup:	NA	Screen Int:			

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- TH3-SB35 Date: 10/9/03 Time Start: 0359
 Location Desc.: SB35 sw corner 150' SW ↑ N Time End: 0411
 NTS Time Sample: 0410
 Amount Grout: 1/2 bucket / hole

Depth	Sample ID	RID/FID READINGS			Remarks
		Initial	Filtered	Total	
1-2		1330	76	1254	TIME 1.5 CRN
2-3		1882	1882 582	MD 1300	0400/0405
1-2	CF- TH3-SB35	-	-	-	(0410) LAB Sample

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Laboratory	Collected
8260	Cit ₃ OH/H ₂ O	3- 40 ml vials	Accutest	yes
8310	None	1- 4oz jar	↓	↓
PL-PRO	None	1- 4oz jar	↓	↓

OBSERVATIONS / NOTES FID CAL: 99 PPM Field Log Book No. 13-1
 Drilling Area Background (PPM): 0.0

LAB INFO LAB: ACCUTEST
 COC #: 2370

Check if Collected: MS / MSD DUPLICATE / ID No.: None Signature(s): M. Dale

APPENDIX D
GROUNDWATER SAMPLE LOG AND
LOW FLOW PURGE SHEET FOR CF-VA02



Project Site Name: NASCF, Jet Fuel Pipeline, 103rd St. Sample ID No.: VA02-MW-15th MW
 Project No.: N0013 Sample Location: CEF-VA02-1S
 Sampled By: MD
 C.O.C. No.: VA02-1B
 Type of Sample: Low Concentration
 High Concentration

Domestic Well Data
 Monitoring Well Data
 Other Well Type:
 QA Sample Type:

SAMPLING DATA								
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP mV	Other
11/21/03 1950	clear	5.38	0.001	24.2	1.53	8.97	285	

PURGE DATA								
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP	
11/21/03								
Method: Low Flow Peristaltic								
Monitor Reading (ppm): 0.2								
Well Casing Diameter: 2 inch								
Well Casing Material: Sch. 40 PVC								
Total Well Depth (TD): 12 ft.								
Static Water Level (WL): 2.22 MD								
One Casing Volume (gal): 6.2								
Start Purge (hrs): 1401								
End Purge (hrs): 1547								
Total Purge Time (min): 107								
Total Vol. Purged (gal): 20								

See Low Flow Purge Sheet for data.

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
SW846 8260B	4C/HCL	3-40 ml vials	<input checked="" type="checkbox"/>
SW846 8310	4C	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Note that teflon tubing set in well at mid-screen or approx. 7 ft. btoC.

Circle if Applicable:

MS/MSD	Duplicate ID No.: None	Signature(s): M. W. Dale
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Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NASCF, Jet Fuel Pipeline, 103rd St.
PROJECT NUMBER: N0013

WELL ID.: CEF-VA02-1S
DATE: 11/21/2003

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	Cum. Vol. (Liters)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1401	2.02	—	0	—	—	—	—	—	—	
1404	2.31	200	0.9	5.67	0.001	—	—	—	—	START purge
1405	2.33	200	0.12	—	—	—	8.63	24.4	281	clear
1411	2.37	200	2.4	5.67	0.001	—	—	—	—	slow pump
1412	—	200	2.6	—	—	15.5	8.63	24.8	280	clear
1415	2.35	200	3.2	5.67	0.001	—	8.69	—	—	slow pump for deaeration.
1419	2.36	200	4.0	5.68	0.001	8.70	8.76	24.8	279	
1426	2.39	200	5.4	5.59	0.001	5.39	8.84	24.9	279	
1431	2.38	183	7.6	5.43	0.001	3.11	8.88	24.3	281	slowed pump
1449	2.40	183	9.6	5.40	0.001	2.72	8.89	24.1	284	
1459	2.40	183	11.4	5.38	0.001	2.08	8.89	24.1	285	
1510	2.40	183	13.4	5.45	0.001	1.68	8.90	24.1	285	
1520	2.40	183	15.2	5.44	0.001	1.74	8.93	24.1	284	
1535	2.40	183	17.9	5.38	0.001	1.53	8.97	24.2	285	
1547	2.40	183	20	—	—	—	—	—	—	clear
										stable on 14873
										& @ 3 well vols.

SIGNATURE(S):

APPENDIX E
MOBILE LABORATORY REPORTS



KB LABS, INC.
6821 Southwest Archer Road
Gainesville, Florida 32608
Telephone (352) 367-0073
Fax (352) 367-0074
Email: info@kbmobilelabs.com

October 16, 2003

Paul Calligan
Tetra Tech NUS
5421 Beaumont Center Boulevard, Suite 660
Tampa, Florida 33634

**RE: NAS Cecil Field CTO #072, Jacksonville, Florida - Final Data Report
KB Labs Project # 03-166**

Dear Mr. Calligan:

Enclosed is the final report of samples analyzed by KB Labs, Inc. for the above referenced site. Samples were collected and analyzed from October 7 to 10, 2003. Included are a brief project narrative, a data report narrative, tables listing quality control results, the final analytical results, and sample chain-of-custody forms. This information will also be sent electronically. Including this cover page, the Final Report totals 11 pages.

KB Labs' mobile laboratories have been inspected by the FDOH Bureau of Laboratories and have been approved for NELAP Certification as of April 1, 2003. Our personnel, methodology, proficiency testing, and quality assurance requirements complied with the guidelines of Chapter 64E-1 of the Florida Administrative Code and with the consensus standards adopted at the National Environmental Laboratory Accreditation Conference (NELAC). Data for the site referenced above were determined in accordance with published procedures under Test Methods for Evaluating Solid Waste (EPA SW-846, Update III Revised May 1997). Unless otherwise indicated on the quality control narrative accompanying the data report, the quality assurance and quality control procedures performed in conjunction with analysis of groundwater samples demonstrated that the reported data met our for accuracy and precision under NELAC Standards

If you have any questions, please do not hesitate to call me or Kelly Bergdoll, President of KB Labs, at (352) 367-0073.

Sincerely,

KB Labs, Inc.

Todd Romero
Director of Operations

000001

KB LABS, INC.

PROJECT NARRATIVE

Client:	TtNUS	Driller/Sampler:	Prosonic	Analyst:	Yael Hoogland
Site:	Cecil Field CTO #072	KB Labs Project Manager:	Kelly Bergdoll	KB Labs Project #:	03-166
Onsite Dates:	10/07/03-10/10/03	Client Project Manager:	Paul Calligan	Matrix:	Water/Soil

Project Scope

From October 7 to 10, 2003, a total of 17 soil and 9 ground water samples were collected at three NAS Cecil Field pipeline sites (TH3, CF-AN05, & CF-AN16) in Jacksonville, Florida, by Tetra Tech NUS and relinquished to KB Labs' Mobile Laboratory. The samples were analyzed on-site for MtBE, benzene, ethylbenzene, toluene, xylenes, naphthalene, and 1-&2-methylnaphthalene.

NELAP Certification

KB Mobile Labs Unit KB3: FDOH NELAP Certification Number E82816

Analytical Procedure

Waters: The samples were analyzed for volatile organic compounds (VOCs) using SW846 Method 5030/8260 for waters. Ten (10) ml of sample were purged with helium and the VOCs were collected on a solid-phase adsorption trap. The adsorption trap was heated and back-purged with helium and the components were separated by capillary column gas chromatography and measured with a mass spectrometer detector (MSD). The individual VOCs in the samples were measured against corresponding VOC standards.

Soils: The low-level soil samples were analyzed using SW846 Method 5030/8260. One (1) gram (g) of soil sample was added to 10 mL of laboratory reagent water, heated and analyzed like a water sample as described above.

Unless otherwise indicated, soil data is calculated based on the matrix received (i.e. wet weight basis).

Analytical Results

Laboratory results were provided to the client on an as-completed or next-day basis. Final results of the on-site analyses are provided in a hardcopy report. The data produced and reported in the field has been reviewed and approved for this final report by the Director of Operations for KB Labs.

000002

Quality Control (QC) Data

Surrogate Recoveries – Table 1 lists the daily analytical sequence and percent recovery results for surrogate compounds, which were added to all analyses. Four (4) surrogate compounds were added to each analysis in order to continually monitor general method performance.

VOC Spike Recoveries – Table 2 lists the percent recovery results for matrix spike and laboratory control samples. A known amount of each target compound was added to selected field samples and to laboratory reagent water in order to monitor the performance of each of the target compounds in the actual matrix and in laboratory reagent water.

Method Blanks – Daily analysis of laboratory reagent water samples was performed in order to monitor the cleanliness of the analytical system.

Signature: 

Title: Director of Operations

Date: 10/16/03

000003

KB LABS, INC.

DATA REPORT NARRATIVE

Client:	TINUS	Driller/Sampler:	Prosonic	Analyst:	Yael Hoogland
Site:	Cecil Field CTO #072	KB Labs Project Manager:	Kelly Bergdoll	KB Labs Project #:	03-166
Onsite Dates:	10/07/03-10/10/03	Client Project Manager:	Paul Calligan	Matrix:	Water/Soil

1. All samples have been reviewed and, if required, updated in the Final Data Report for rounding and significant figures.

Signature: 

Title: Director of Operations

Date: 10/16/03

000004

KB LABS, INC.

Table 1: Analytical Run Sequence/Surrogate Percent Recoveries

Client: T1NUS	Driller/Sampler: Prosonic	Analyst: Yael Hoogland
Site: Cecil Field CTO # 072	KB Labs Project Manager: Kelly Bergdoll	KB Labs Project No: 03-166
On-site Dates: 10/07/03-10/10/03	Client Project Manager: Paul Calligan	Matrix: Water/Soil

Sample ID	Date of Analysis	Surrogate % Recovery				Surrogate Control Limits: 80%(LCL) to 120%(UCL)			
		S1*	S2*	S3*	S4*	S1*	S2*	S3*	S4*
BFB	10/07/03	121	109	101	90	> UCL	Pass	Pass	Pass
VSTD 01	10/07/03	96	98	105	102	Pass	Pass	Pass	Pass
VSTD 05	10/07/03	103	100	100	100	Pass	Pass	Pass	Pass
VSTD 10	10/07/03	97	96	100	100	Pass	Pass	Pass	Pass
VSTD 20	10/07/03	104	104	98	100	Pass	Pass	Pass	Pass
VSTD 100	10/07/03	94	95	99	99	Pass	Pass	Pass	Pass
LCS	10/07/03	101	95	101	100	Pass	Pass	Pass	Pass
BLANK	10/07/03	108	104	101	101	Pass	Pass	Pass	Pass
VSTD 01	10/07/03	93	94	106	98	Pass	Pass	Pass	Pass
CF-AN05 TMW 05	10/08/03	94	103	102	98	Pass	Pass	Pass	Pass
CF-AN05 TMW 07	10/08/03	91	93	103	101	Pass	Pass	Pass	Pass
CF-AN05 TMW 06	10/08/03	88	100	103	98	Pass	Pass	Pass	Pass
VF-AN05 SB 05	10/08/03	94	96	102	100	Pass	Pass	Pass	Pass
CF-AN05 SB 06	10/08/03	95	107	104	102	Pass	Pass	Pass	Pass
CF-AN05 SB 07	10/08/03	92	103	100	102	Pass	Pass	Pass	Pass
VSTD 20 TEST	10/08/03	97	100	102	103	Pass	Pass	Pass	Pass
CF-AN05 SB 08	10/08/03	94	93	102	99	Pass	Pass	Pass	Pass
CF-AN05 TMW 08	10/08/03	95	94	101	103	Pass	Pass	Pass	Pass
CCS	10/08/03	97	98	100	105	Pass	Pass	Pass	Pass
BFB	10/08/03	92	89	100	100	Pass	Pass	Pass	Pass
VSTD 20	10/08/03	95	96	102	103	Pass	Pass	Pass	Pass
LCS	10/08/03	102	103	101	101	Pass	Pass	Pass	Pass
BLANK	10/08/03	101	110	103	100	Pass	Pass	Pass	Pass
BLANK	10/08/03	88	92	103	101	Pass	Pass	Pass	Pass
CF-TH3 SB 28	10/09/03	94	100	109	118	Pass	Pass	Pass	Pass
CF-TH3 28MS	10/09/03	93	100	108	104	Pass	Pass	Pass	Pass
CF-TH3 SB 28MSD	10/09/03	98	108	106	119	Pass	Pass	Pass	Pass
CF-TH3 SB 30	10/09/03	112	107	106	108	Pass	Pass	Pass	Pass
CF-TH3 SB 26	10/09/03	106	110	105	105	Pass	Pass	Pass	Pass
CF-TH3 SB 32	10/09/03	115	109	112	126	Pass	Pass	Pass	Pass
CF-TH3 SB 32	10/09/03	110	113	106	111	Pass	Pass	Pass	> UCL
CF-TH3 SB 33	10/09/03	100	110	106	108	Pass	Pass	Pass	Pass
CF-TH3 SB 34	10/09/03	107	106	102	100	Pass	Pass	Pass	Pass
CF-TH3 SB 35	10/09/03	102	106	105	111	Pass	Pass	Pass	Pass
CCS	10/09/03	107	110	102	102	Pass	Pass	Pass	Pass
BLANK	10/09/03	87	92	109	100	Pass	Pass	Pass	Pass
BFB	10/09/03	100	100	107	95	Pass	Pass	Pass	Pass
VSTD 20	10/09/03	95	98	104	101	Pass	Pass	Pass	Pass

***Surrogate Compounds:**

S1 = 1,2- Dichloroethane-D4

S2 = 1,2-Difluorobenzene

S3 = Toluene-D8

S4 = 4-Bromofluorobenzene

000005

KB LABS, INC.

Table 1: Analytical Run Sequence/Surrogate Percent Recoveries

Client: TiNUS	Driller/Sampler: Prosonic	Analyst: Yael Hoogland
Site: Cecil Field CTO # 072	KB Labs Project Manager: Kelly Bergdoll	KB Labs Project No: 03-166
On-site Dates: 10/07/03-10/10/03	Client Project Manager: Paul Calligan	Matrix: Water/Soil

Sample ID	Date of Analysis	Surrogate % Recovery				Surrogate Control Limits: 80%(LCL) to 120%(UCL)			
		S1*	S2*	S3*	S4*	S1*	S2*	S3*	S4*
LCS	10/09/03	106	108	101	99	Pass	Pass	Pass	Pass
BLANK	10/09/03	106	106	101	99	Pass	Pass	Pass	Pass
CF TH3 SB 05	10/09/03	107	109	103	100	Pass	Pass	Pass	Pass
CF TH3 TMW 05	10/10/03	94	96	100	103	Pass	Pass	Pass	Pass
CF TH3 TMW 06	10/10/03	107	109	102	102	Pass	Pass	Pass	Pass
CF TH3 SB 06	10/10/03	108	107	102	99	Pass	Pass	Pass	Pass
CF TH3 SB 07	10/10/03	89	97	104	106	Pass	Pass	Pass	Pass
CF TH3 TMW 07	10/10/03	103	101	104	105	Pass	Pass	Pass	Pass
CF TH3 TMW 08	10/10/03	96	104	102	104	Pass	Pass	Pass	Pass
CF TH3 SB 08	10/10/03	96	100	101	102	Pass	Pass	Pass	Pass
CF TH3 TMW 09	10/10/03	99	109	100	99	Pass	Pass	Pass	Pass
CF TH3 SB 09	10/10/03	108	105	100	101	Pass	Pass	Pass	Pass
CF TH3 TMW 09MS	10/10/03	102	103	102	100	Pass	Pass	Pass	Pass
CF TH3 TMW 09MSD	10/10/03	96	96	101	103	Pass	Pass	Pass	Pass
CCS	10/10/03	96	99	100	101	Pass	Pass	Pass	Pass
Comments:	Although some surrogates may be out of the control percent recovery range (80% to 120%), other supporting QC, such as matrix spikes, matrix spike duplicates, method blanks, and laboratory control samples, are performed by KB Labs to further validate								

Signature: Todd Lorenz
Title: Director of Operations
Date: 10/16/03

***Surrogate Compounds:**
S1 = 1,2- Dichloroethane-D4
S2 = 1,2-Difluorobenzene
S3 = Toluene-D8
S4 = 4-Bromofluorobenzene

000006

KB LABS, INC.

Table 2: VOC Spike Compound Percent Recoveries

Client: TtNUS	Driller/Sampler: Prosonic	Analyst: Yael Hoogland
Site: Cecil Field CTO #072	KB Labs Project Manager: Kelly Bergdoll	KB Labs Project No.: 03-166
On-site Dates: 10/07/03-10/10/03	Client Project Manager: Paul Calligan	Matrix: Water/Soil

Matrix Spike/Matrix Spike Duplicate (MS/MSD):

Samples: CF-TH3 SB 28MS		Date of Analysis: 10/8/2003							
CF-TH3 SB 28MSD									
Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
MTBE	57	175	20	67	102	42	Pass	Pass	> RPD
Benzene	63	135	20	97	100	2	Pass	Pass	Pass
Toluene	66	130	20	105	103	2	Pass	Pass	Pass
2-Methyl Naphthalene	53	147	20	64	62	2	Pass	Pass	Pass
1-Methyl Naphthalene	61	139	20	62	63	1	Pass	Pass	Pass
Ethylbenzene	64	136	20	102	96	6	Pass	Pass	Pass
m,p-Xylene	55	143	20	107	117	9	Pass	Pass	Pass
o-Xylene	62	136	20	106	119	12	Pass	Pass	Pass
Naphthalene	0	233	20	78	89	14	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

Samples: CF TH3 TMW 09MS		Date of Analysis: 10/9/2003							
CF TH3 TMW 09MSD									
Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
MTBE	57	175	20	97	94	4	Pass	Pass	Pass
Benzene	63	135	20	103	98	6	Pass	Pass	Pass
Toluene	66	130	20	100	100	1	Pass	Pass	Pass
2-Methyl Naphthalene	53	147	20	51	94	60	< LCL	Pass	> RPD
1-Methyl Naphthalene	61	139	20	53	89	52	< LCL	Pass	> RPD
Ethylbenzene	64	136	20	99	97	1	Pass	Pass	Pass
m,p-Xylene	55	143	20	99	102	3	Pass	Pass	Pass
o-Xylene	62	136	20	100	105	4	Pass	Pass	Pass
Naphthalene	0	233	20	81	99	20	Pass	Pass	> RPD

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

000007

KB LABS, INC.

Table 2: VOC Spike Compound Percent Recoveries

Client: TINUS	Driller/Sampler: Prosonic	Analyst: Yael Hoogland
Site: Cecil Field CTO #072	KB Labs Project Manager: Kelly Bergdoll	KB Labs Project No.: 03-166
On-site Dates: 10/07/03-10/10/03	Client Project Manager: Paul Calligan	Matrix: Water/Soil

Laboratory Control Spikes (LCS):

Samples:	LCS 1	Date of Analysis:	10/7/2003					
	LCS 2		10/8/2003					
	LCS 3		10/9/2003					
Spike Compounds	Control Limits		Percent Recoveries			Control Limit Checks		
	Lower	Upper	LCS#1	LCS#2	LCS#3	LCS#1	LCS#2	LCS#3
MTBE	70	to 130	107	93	91	Pass	Pass	Pass
Benzene	70	to 130	101	97	105	Pass	Pass	Pass
Toluene	70	to 130	106	95	98	Pass	Pass	Pass
2-Methyl Naphthalene	70	to 130	139	108	100	> UCL	Pass	Pass
1-Methyl Naphthalene	70	to 130	134	108	100	> UCL	Pass	Pass
Ethylbenzene	70	to 130	103	97	98	Pass	Pass	Pass
m,p-Xylene	70	to 130	103	97	99	Pass	Pass	Pass
o-Xylene	70	to 130	105	99	98	Pass	Pass	Pass
Naphthalene	70	to 130	128	99	93	Pass	Pass	Pass

Note: Control limits are based on method guidance.

Signature: Todd Brown
Title: Director of Operations
Date: 10/16/03



KB LABS, INC.

Final Data Report
Cecil Field CTO 072

Jacksonville, FL

KB Labs Project # 03-166

Prepared for: Tetra Tech NUS

Well ID	Analysis Date	Matrix	Dilution Factor	MtBE	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene
CFAN05 TMW 05	10/8/03	Water	1	8.4	<1.0	3.5	<1.0	2.9	1.0	<5.0	<5.0	<5.0
CFAN05 TMW 07	10/8/03	Water	1	<5.0	<1.0	2.8	1.1	3.4	1.1	<5.0	<5.0	<5.0
CFAN05 TMW 06	10/8/03	Water	1	<5.0	<1.0	2.8	<1.0	2.0	<1.0	<5.0	<5.0	<5.0
CFAN05 TMW 08	10/8/03	Water	1	<5.0	<1.0	3.4	1.1	3.7	1.2	<5.0	<5.0	<5.0
CFAN05 SB 05	10/8/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN05 SB 06	10/8/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN05 SB 07	10/8/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN05 SB 08	10/8/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 28	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 30	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	0.060
CFTH3 SB 26	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 31	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	0.014	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 32	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 33	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 34	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 35	10/9/03	Soil	1	<0.050	<0.0070	<0.010	0.024	0.10	0.027	<0.050	<0.050	<0.050
CFAN16 TMW 05	10/10/03	Water	1	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0
CFAN16 TMW 06	10/10/03	Water	1	<5.0	<1.0	<1.0	<1.0	1.0	<1.0	<5.0	<5.0	<5.0
CFAN16 TMW 07	10/10/03	Water	1	<5.0	<1.0	<1.0	<1.0	1.0	<1.0	<5.0	<5.0	<5.0
CFAN16 TMW 08	10/10/03	Water	1	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0
CFAN16 TMW 09	10/10/03	Water	1	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0
CFAN16 SB 05	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN16 SB 06	10/10/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN16 SB 07	10/10/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN16 SB 08	10/10/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN16 SB 09	10/10/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050

Reporting units for waters are ug/L and for soils are mg/Kg.

000009



6821 SW Archer Road
 Gainesville, FL 32608
 TEL (352) 367-0073
 FAX (352) 367-0074

CHAIN-OF-CUSTODY RECORD

MOBILE UNIT #
LB 1

CLIENT NAME		PROJECT NAME & ADDRESS						SAMPLE MATRIX	NUMBER OF CONTAINERS	IDENTIFY PARAMETERS DESIRED AND NO. OF CONTAINERS	VOLATILES	PRESERVATION
Tetra Tech		CFTH3 NAS Cecil Field Pipeline										
SAMPLERS		CONTACT PERSON						STATION LOCATION / No.				COMMENT
Pro Sonic		[REDACTED]										
SAMPLE FIELD ID. \ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D						
CFTH3 SB 35	100903	0410		✓	100903	0420		S	1	✓	1.01g	
CF AN16 SB05	100903	2204		-	100903	2210		S	1	✓	0.99g	
CF AN16 T MW 05		2215		-		2217		GW	2	✓	dark sludge	
T MW 06		2304		-		2307		GW	2	✓	pH 4.5	
SB 06		2306		-		2307		S	1	✓	1.02g	
SB 07		2353		-		0005		S	1	✓	1.05g	
T MW 07	101003	0006		-	101003	0005		GW	2	✓	pH 4.5	
SB 08		0056		-		0100		S	1	✓	1.03g	
T MW 08		0100		-		0100		GW	2	✓	pH 4.5	
SB 09		0149		-		0155		S	1	✓	1.05g	
T MW 09		0156		-		0200		GW	2	✓	pH 4.5	

Precleaned Containers Relinquished by: (Signature) <i>M.W. Dale</i>	Date / Time 	Received by: (Signature) <i>[Signature]</i>	Date / Time 	Remarks and Observations pg 2 of 2 100803 8 samples 100903 10 samples
Relinquished by: (Signature) <i>M.W. Dale</i>	Date / Time 	Received by: (Signature) <i>[Signature]</i>	Date / Time 1009 03	

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

000010



SW Archer Road
Gainesville, FL 32608
TEL (352) 367-0073
FAX (352) 367-0074

CHAIN-OF-CUSTODY RECORD

~~100703~~

MOBILE UNIT #
KB1

CLIENT NAME Tetra Tech		PROJECT NAME & ADDRESS CF A05 NAS Cecil Field Pipeline						SAMPLE MATRIX	NUMBER OF CONTAINERS	IDENTIFY PARAMETERS DESIRED AND NO. OF CONTAINERS	PRESERVATION	
SAMPLERS ProSonic		CONTACT PERSON Merv Dale				BATCH # (Use Only)					C Chilled	H HCL
SAMPLE FIELD ID. \ NUMBER		DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	VOLATILES	COMMENT		

SAMPLE FIELD ID. \ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	IDENTIFY PARAMETERS DESIRED AND NO. OF CONTAINERS	PRESERVATION	COMMENT
CF A05 TMW 05	100803	0005			100803	0010		GW	2			
TMW 07		0028				0035						pH 6
TMW 06		0058				0100						pH 6
SB 05		0200				0207		S	1			1.00g
SB 06						0226						0.99g
SB 07		0233				0240						1.00g
SB 08						0319						1.00g
TMW 08		0330				0334						1.00g
CF TH3 SB 28	100903	0156			100903	0200		GW	2			pH 6
30		0211				0220		S	1			0.98g MS1.01g MSD0.98g
26		0235				0240						1.04g Strong Odor/screening clear
31		0251				0259						1.01g
32		0307				0315						1.07g
33		0323				0327						1.10g
34		0337				0340						0.98g
												1.03g

Precleaned Containers Relinquished by: (Signature) <i>[Signature]</i>	Date / Time 100803	Received by: (Signature) <i>M.W. Dale</i>	Date / Time	Remarks and Observations pH 7.2 Requested Non preserved vials 100703 8 samples
Relinquished by: (Signature) <i>M.W. Dale</i>	Date / Time	Received by: (Signature) <i>[Signature]</i>	Date / Time 100803	

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

100803 - 7 samples + 1 <

000011

APPENDIX F
FIXED-BASE LABORATORY REPORT FOR CF-AN05

Technical Report for

Tetra Tech, NUS

NASCF-NASJAX Pipeline N0013

N0013-WR380

Accutest Job Number: F19992

Report to:

Total number of pages in report: 141



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.


Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK
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Sample Summary

Tetra Tech, NUS

Job No: F19992

NASCF-NASJAX Pipeline N0013

Project No: N0013-WR380

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F19992-1	10/08/03	01:35 MD	10/09/03	AQ	Ground Water	CF-AN05-TMW07
F19992-2	10/08/03	02:00 MD	10/09/03	SO	Soil	CF-AN05-SB05

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Report of Analysis

Client Sample ID:	CF-AN05-TMW07	Date Sampled:	10/08/03
Lab Sample ID:	F19992-1	Date Received:	10/09/03
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0018777.D	1	10/15/03	KW	n/a	n/a	VC823
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.53	1.0	0.50	ug/l	J
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.52	1.0	0.50	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	1.4	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-AN05-TMW07 Lab Sample ID: F19992-1 Matrix: AQ - Ground Water Method: SW846 8260B Project: NASCF-NASJAX Pipeline N0013	Date Sampled: 10/08/03 Date Received: 10/09/03 Percent Solids: n/a
--	--

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
1330-20-7	Xylene (total)	1.6	3.0	1.0	ug/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
1868-53-7	Dibromofluoromethane	99%		86-115%		
17060-07-0	1,2-Dichloroethane-D4	102%		78-125%		
2037-26-5	Toluene-D8	107%		87-113%		
460-00-4	4-Bromofluorobenzene	100%		84-117%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-AN05-TMW07 Lab Sample ID: F19992-1 Matrix: AQ - Ground Water Method: EPA 504.1 EPA 504 Project: NASCF-NASJAX Pipeline N0013	Date Sampled: 10/08/03 Date Received: 10/09/03 Percent Solids: n/a
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK00461.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13
Run #2							

Run #	Initial Volume	Final Volume
Run #1	37.6 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0093	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	101%		60-140%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL - Method Detection Limit	J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
--	------------------------------	--

Report of Analysis

Client Sample ID:	CF-AN05-TMW07	Date Sampled:	10/08/03
Lab Sample ID:	F19992-1	Date Received:	10/09/03
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 8310 SW846 3510C		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA017864.D	1	10/15/03	MRE	10/14/03	OP8776	GAA854
Run #2							

Run #	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.4	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.4	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.56	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	ND	2.2	0.56	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.56	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.56	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.56	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	80%		32-142%
92-94-4	p-Terphenyl	61%		30-128%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-AN05-TMW07 Lab Sample ID: F19992-1 Matrix: AQ - Ground Water Method: FLORIDA-PRO SW846 3510C Project: NASCF-NASJAX Pipeline N0013	Date Sampled: 10/08/03 Date Received: 10/09/03 Percent Solids: n/a
--	--

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	OP32383.D	1	10/15/03	SM	10/13/03	OP8774	GOP1087
Run #2							

	Initial Volume	Final Volume
Run #1	870 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.29	0.20	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	74%		51-125%		

(a) Sample not preserved, adjusted to pH < 2 prior to extraction.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN05-TMW07	Date Sampled:	10/08/03
Lab Sample ID:	F19992-1	Date Received:	10/09/03
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	2.7 B	5.0	1.2	ug/l	1	10/15/03	10/15/03 DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

Report of Analysis

Client Sample ID:	CF-AN05-SB05	Date Sampled:	10/08/03
Lab Sample ID:	F19992-2	Date Received:	10/09/03
Matrix:	SO - Soil	Percent Solids:	88.9
Method:	SW846 8260B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022611.D	1	10/13/03	NAF	n/a	n/a	VH827
Run #2							

Run #	Initial Weight
Run #1	3.60 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.8	3.1	ug/kg	
108-88-3	Toluene	ND	7.8	3.1	ug/kg	
100-41-4	Ethylbenzene	ND	7.8	3.1	ug/kg	
1330-20-7	Xylene (total)	ND	23	7.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.8	3.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		70-130%
2037-26-5	Toluene-D8	98%		79-121%
460-00-4	4-Bromofluorobenzene	112%		77-133%
17060-07-0	1,2-Dichloroethane-D4	90%		72-133%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-AN05-SB05 Lab Sample ID: F19992-2 Matrix: SO - Soil Method: FLORIDA-PRO SW846 3550B Project: NASCF-NASJAX Pipeline N0013	Date Sampled: 10/08/03 Date Received: 10/09/03 Percent Solids: 88.9
---	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32555.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	11.8	9.3	6.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	104%		57-127%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

APPENDIX G
FIXED-BASE LABORATORY REPORT FOR CF-AN16

Technical Report for

Tetra Tech, NUS

NASCF-NASJAX Pipeline N0013

CT0# 72 N0013-WR380

Accutest Job Number: F20036

Report to:

Total number of pages in report: 155



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.


Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK
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Sample Summary

Tetra Tech, NUS

Job No: F20036

NASCF-NASJAX Pipeline N0013
Project No: CT0# 72 N0013-WR380

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
F20036-1	10/09/03	22:35 MD	10/11/03	SO	Soil	CF-AN16-SB05
F20036-2	10/10/03	02:37 MD	10/11/03	AQ	Ground Water	CF-AN16-TMW05

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Report of Analysis

Client Sample ID: CF-AN16-SB05 Lab Sample ID: F20036-1 Matrix: SO - Soil Method: SW846 8260B Project: NASCF-NASJAX Pipeline N0013	Date Sampled: 10/09/03 Date Received: 10/11/03 Percent Solids: 91.8
---	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022617.D	1	10/13/03	NAF	n/a	n/a	VH827
Run #2							

Run #	Initial Weight
Run #1	3.70 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.4	2.9	ug/kg	
108-88-3	Toluene	ND	7.4	2.9	ug/kg	
100-41-4	Ethylbenzene	ND	7.4	2.9	ug/kg	
1330-20-7	Xylene (total)	ND	22	6.6	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.4	2.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		70-130%
2037-26-5	Toluene-D8	96%		79-121%
460-00-4	4-Bromofluorobenzene	108%		77-133%
17060-07-0	1,2-Dichloroethane-D4	102%		72-133%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN16-SB05	Date Sampled:	10/09/03
Lab Sample ID:	F20036-1	Date Received:	10/11/03
Matrix:	SO - Soil	Percent Solids:	91.8
Method:	EPA 8310 SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA017986.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	720	180	ug/kg	
208-96-8	Acenaphthylene	ND	720	180	ug/kg	
120-12-7	Anthracene	ND	360	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	360	90	ug/kg	
50-32-8	Benzo(a)pyrene	ND	72	72	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	72	72	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	72	72	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	72	18	ug/kg	
218-01-9	Chrysene	ND	360	90	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	72	18	ug/kg	
206-44-0	Fluoranthene	ND	360	90	ug/kg	
86-73-7	Fluorene	ND	360	180	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	72	72	ug/kg	
91-20-3	Naphthalene	ND	360	90	ug/kg	
90-12-0	1-Methylnaphthalene	ND	360	90	ug/kg	
91-57-6	2-Methylnaphthalene	ND	360	90	ug/kg	
85-01-8	Phenanthrene	ND	360	180	ug/kg	
129-00-0	Pyrene	ND	360	90	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	101%		38-139%
92-94-4	p-Terphenyl	101%		46-149%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-AN16-SB05 Lab Sample ID: F20036-1 Matrix: SO - Soil Method: FLORIDA-PRO SW846 3550B Project: NASCF-NASJAX Pipeline N0013	Date Sampled: 10/09/03 Date Received: 10/11/03 Percent Solids: 91.8
---	---

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	OP32572.D	5	10/20/03	SM	10/15/03	OP8785	GOP1090

Run #1	Initial Weight	Final Volume
Run #2	30.1 g	1.0 ml

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	79.8	45	31	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	104%		57-127%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN16-TMW05	Date Sampled:	10/10/03
Lab Sample ID:	F20036-2	Date Received:	10/11/03
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B018180.D	1	10/22/03	RA	n/a	n/a	VB798
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.99	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	J
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN16-TMW05	Date Sampled:	10/10/03
Lab Sample ID:	F20036-2	Date Received:	10/11/03
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	NASCF-NASJAX Pipeline N0013		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
1330-20-7	Xylene (total)	1.1	3.0	1.0	ug/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
1868-53-7	Dibromofluoromethane	99%		86-115%		
17060-07-0	1,2-Dichloroethane-D4	109%		78-125%		
2037-26-5	Toluene-D8	108%		87-113%		
460-00-4	4-Bromofluorobenzene	113%		84-117%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-AN16-TMW05 Lab Sample ID: F20036-2 Matrix: AQ - Ground Water Method: EPA 504.1 EPA 504 Project: NASCF-NASJAX Pipeline N0013	Date Sampled: 10/10/03 Date Received: 10/11/03 Percent Solids: n/a
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK00462.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13
Run #2							

Run #	Initial Volume	Final Volume
Run #1	38.0 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.018	0.0092	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	102%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN16-TMW05	Date Sampled:	10/10/03
Lab Sample ID:	F20036-2	Date Received:	10/11/03
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 8310 SW846 3510C		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE018779.D	1	10/24/03	MRE	10/16/03	OP8794	GEE784
Run #2							

Run #	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.3	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.54	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	ND	2.2	0.54	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.54	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.54	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.54	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	72%		32-142%		
92-94-4	p-Terphenyl	53%		30-128%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN16-TMW05	
Lab Sample ID:	F20036-2	Date Sampled: 10/10/03
Matrix:	AQ - Ground Water	Date Received: 10/11/03
Method:	FLORIDA-PRO SW846 3510C	Percent Solids: n/a
Project:	NASCF-NASJAX Pipeline N0013	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	OP32484.D	1	10/17/03	SM	10/13/03	OP8774	GOP1088
Run #2	OP32613.D	1	10/21/03	SM	10/20/03	OP8820	GOP1090

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.25	0.17	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	49%	80%	51-125%		

(a) Confirmed ND by re-extraction and reanalysis beyond holdtime.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-AN16-TMW05	Date Sampled: 10/10/03
Lab Sample ID: F20036-2	Date Received: 10/11/03
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: NASCF-NASJAX Pipeline N0013	

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	10.7	5.0	1.2	ug/l	1	10/15/03	10/15/03 DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
 IDL = Instrument Detection Limit

U = Indicates a result < IDL
 B = Indicates a result > = IDL but < RL

APPENDIX H
FIXED-BASE LABORATORY REPORT FOR CF-TH03



01/08/04

Technical Report for

Tetra Tech, NUS
NASCF-NASJAX Pipeline N0013
N0013-WR380(SS)
Accutest Job Number: F19999

Report to:

Tetra Tech, NUS

dalem@ttnus.com
ATTN: Merv Dale

Total number of pages in report: 33



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi
Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK
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Sample Summary

Tetra Tech, NUS

NASCF-NASJAX Pipeline N0013
 Project No: N0013-WR380(SS)

Job No: F19999

Sample Number	Collected		Matrix			Client Sample ID
	Date	Time By	Received	Code	Type	
F19999-1	10/09/03	01:56 MD	10/10/03	SO	Soil	CF-TH3-SB28
F19999-2	10/09/03	02:11 MD	10/10/03	SO	Soil	CF-TH3-SB30
F19999-3	10/09/03	02:35 MD	10/10/03	SO	Soil	CF-TH3-SB26
F19999-4	10/09/03	02:51 MD	10/10/03	SO	Soil	CF-TH3-SB31
F19999-5	10/09/03	03:07 MD	10/10/03	SO	Soil	CF-TH3-SB32
F19999-6	10/09/03	03:23 MD	10/10/03	SO	Soil	CF-TH3-SB33
F19999-7	10/09/03	03:37 MD	10/10/03	SO	Soil	CF-TH3-SB34
F19999-8	10/09/03	04:10 MD	10/10/03	SO	Soil	CF-TH3-SB35
F19999-9	10/09/03	00:00 MD	10/10/03	SO	Soil	CF-TH3-SO-DUP1

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Report of Analysis

Client Sample ID: CF-TH3-SB28 Lab Sample ID: F19999-1 Matrix: SO - Soil Method: SW846 8260B Project: NASCF-NASJAX Pipeline N0013	Date Sampled: 10/09/03 Date Received: 10/10/03 Percent Solids: 81.5
--	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022592.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

Run #	Initial Weight
Run #1	3.94 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.8	3.1	ug/kg	
108-88-3	Toluene	ND	7.8	3.1	ug/kg	
100-41-4	Ethylbenzene	ND	7.8	3.1	ug/kg	
1330-20-7	Xylene (total)	ND	23	7.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.8	3.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	99%		79-121%
460-00-4	4-Bromofluorobenzene	110%		77-133%
17060-07-0	1,2-Dichloroethane-D4	110%		72-133%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-TH3-SB28	Date Sampled:	10/09/03
Lab Sample ID:	F19999-1	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	81.5
Method:	EPA 8310 SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	AA017973.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.5 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	800	200	ug/kg	
208-96-8	Acenaphthylene	ND	800	200	ug/kg	
120-12-7	Anthracene	ND	400	200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	400	100	ug/kg	
50-32-8	Benzo(a)pyrene	139	80	20	ug/kg	
205-99-2	Benzo(b)fluoranthene	87.7	80	20	ug/kg	
191-24-2	Benzo(g,h,i)perylene	140	80	20	ug/kg	
207-08-9	Benzo(k)fluoranthene	39.2	80	20	ug/kg	J
218-01-9	Chrysene	ND	400	100	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	80	20	ug/kg	
206-44-0	Fluoranthene	ND	400	100	ug/kg	
86-73-7	Fluorene	ND	400	200	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	120	80	20	ug/kg	
91-20-3	Naphthalene	ND	400	100	ug/kg	
90-12-0	1-Methylnaphthalene	ND	400	100	ug/kg	
91-57-6	2-Methylnaphthalene	ND	400	100	ug/kg	
85-01-8	Phenanthrene	ND	400	200	ug/kg	
129-00-0	Pyrene	ND	400	100	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	99%		38-139%
92-94-4	p-Terphenyl	99%		46-149%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-TH3-SB28	Date Sampled:	10/09/03
Lab Sample ID:	F19999-1	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	81.5
Method:	FLORIDA-PRO SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32556.D	4	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	134	40	27	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	99%		57-127%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-TH3-SB30	Date Sampled:	10/09/03
Lab Sample ID:	F19999-2	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	90.8
Method:	SW846 8260B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022593.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

Run #	Initial Weight
Run #1	3.73 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.4	3.0	ug/kg	
108-88-3	Toluene	ND	7.4	3.0	ug/kg	
100-41-4	Ethylbenzene	ND	7.4	3.0	ug/kg	
1330-20-7	Xylene (total)	ND	22	6.6	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.4	3.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		70-130%
2037-26-5	Toluene-D8	100%		79-121%
460-00-4	4-Bromofluorobenzene	110%		77-133%
17060-07-0	1,2-Dichloroethane-D4	115%		72-133%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: CF-TH3-SB30		Date Sampled: 10/09/03	
Lab Sample ID: F19999-2		Date Received: 10/10/03	
Matrix: SO - Soil		Percent Solids: 90.8	
Method: EPA 8310 SW846 3550B			
Project: NASCF-NASJAX Pipeline N0013			

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	AA017974.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.5 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	720	180	ug/kg	
208-96-8	Acenaphthylene	ND	720	180	ug/kg	
120-12-7	Anthracene	ND	360	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	360	90	ug/kg	
50-32-8	Benzo(a)pyrene	87.9	72	18	ug/kg	
205-99-2	Benzo(b)fluoranthene	73.1	72	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	59.7	72	18	ug/kg	J
207-08-9	Benzo(k)fluoranthene	31.1	72	18	ug/kg	J
218-01-9	Chrysene	ND	360	360	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	72	18	ug/kg	
206-44-0	Fluoranthene	544	360	90	ug/kg	
86-73-7	Fluorene	224	360	180	ug/kg	J
193-39-5	Indeno(1,2,3-cd)pyrene	55.1	72	18	ug/kg	J
91-20-3	Naphthalene	ND	360	90	ug/kg	
90-12-0	1-Methylnaphthalene	120	360	90	ug/kg	J
91-57-6	2-Methylnaphthalene	108	360	90	ug/kg	J
85-01-8	Phenanthrene	960	360	180	ug/kg	
129-00-0	Pyrene	368	360	90	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	103%		38-139%
92-94-4	p-Terphenyl	98%		46-149%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-TH3-SB30	Date Sampled: 10/09/03
Lab Sample ID: F19999-2	Date Received: 10/10/03
Matrix: SO - Soil	Percent Solids: 90.8
Method: FLORIDA-PRO SW846 3550B	
Project: NASCF-NASJAX Pipeline N0013	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32557.D	10	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.9 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	255	89	61	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	107%		57-127%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	CF-TH3-SB26	Date Sampled:	10/09/03
Lab Sample ID:	F19999-3	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	88.0
Method:	SW846 8260B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022594.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

Run #	Initial Weight
Run #1	4.06 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.0	2.8	ug/kg	
108-88-3	Toluene	ND	7.0	2.8	ug/kg	
100-41-4	Ethylbenzene	ND	7.0	2.8	ug/kg	
1330-20-7	Xylene (total)	ND	21	6.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.0	2.8	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-130%
2037-26-5	Toluene-D8	105%		79-121%
460-00-4	4-Bromofluorobenzene	133%		77-133%
17060-07-0	1,2-Dichloroethane-D4	112%		72-133%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	CF-TH3-SB26	Date Sampled:	10/09/03
Lab Sample ID:	F19999-3	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	88.0
Method:	EPA 8310 SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	AA017975.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860

Run #1	Initial Weight	Final Volume
Run #2	30.2 g	5.0 ml

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	750	190	ug/kg	
208-96-8	Acenaphthylene	ND	750	190	ug/kg	
120-12-7	Anthracene	ND	380	190	ug/kg	
56-55-3	Benzo(a)anthracene	ND	380	94	ug/kg	
50-32-8	Benzo(a)pyrene	ND	75	19	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	75	19	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	75	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	75	19	ug/kg	
218-01-9	Chrysene	ND	380	94	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	75	19	ug/kg	
206-44-0	Fluoranthene	ND	380	94	ug/kg	
86-73-7	Fluorene	ND	380	190	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	75	19	ug/kg	
91-20-3	Naphthalene	ND	380	94	ug/kg	
90-12-0	1-Methylnaphthalene	ND	380	94	ug/kg	
91-57-6	2-Methylnaphthalene	ND	380	94	ug/kg	
85-01-8	Phenanthrene	ND	380	190	ug/kg	
129-00-0	Pyrene	ND	380	94	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	97%		38-139%
92-94-4	p-Terphenyl	96%		46-149%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-TH3-SB26	Date Sampled:	10/09/03
Lab Sample ID:	F19999-3	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	88.0
Method:	FLORIDA-PRO SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32558.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	6.65	9.3	6.4	mg/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	104%		57-127%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-TH3-SB31	Date Sampled: 10/09/03
Lab Sample ID: F19999-4	Date Received: 10/10/03
Matrix: SO - Soil	Percent Solids: 81.6
Method: SW846 8260B	
Project: NASCF-NASJAX Pipeline N0013	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022595.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

Run #	Initial Weight
Run #1	3.68 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	8.3	3.3	ug/kg	
108-88-3	Toluene	ND	8.3	3.3	ug/kg	
100-41-4	Ethylbenzene	ND	8.3	3.3	ug/kg	
1330-20-7	Xylene (total)	ND	25	7.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	8.3	3.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		70-130%
2037-26-5	Toluene-D8	97%		79-121%
460-00-4	4-Bromofluorobenzene	105%		77-133%
17060-07-0	1,2-Dichloroethane-D4	110%		72-133%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: CF-TH3-SB31							
Lab Sample ID: F19999-4				Date Sampled: 10/09/03			
Matrix: SO - Soil				Date Received: 10/10/03			
Method: EPA 8310 SW846 3550B				Percent Solids: 81.6			
Project: NASCF-NASJAX Pipeline N0013							
Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA017979.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							
Run #	Initial Weight	Final Volume					
Run #1	30.7 g	5.0 ml					
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	800	200	ug/kg	
208-96-8	Acenaphthylene	ND	800	200	ug/kg	
120-12-7	Anthracene	ND	400	200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	400	100	ug/kg	
50-32-8	Benzo(a)pyrene	ND	80	20	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	80	20	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	80	20	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	80	20	ug/kg	
218-01-9	Chrysene	ND	400	100	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	80	20	ug/kg	
206-44-0	Fluoranthene	ND	400	100	ug/kg	
86-73-7	Fluorene	ND	400	200	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	80	20	ug/kg	
91-20-3	Naphthalene	ND	400	100	ug/kg	
90-12-0	1-Methylnaphthalene	ND	400	100	ug/kg	
91-57-6	2-Methylnaphthalene	ND	400	100	ug/kg	
85-01-8	Phenanthrene	ND	400	200	ug/kg	
129-00-0	Pyrene	ND	400	100	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	88%		38-139%
92-94-4	p-Terphenyl	84%		46-149%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-TH3-SB31	Date Sampled:	10/09/03
Lab Sample ID:	F19999-4	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	81.6
Method:	FLORIDA-PRO SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32559.D	40	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	775	410	280	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	0% ^a		57-127%		

(a) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-TH3-SB32	Date Sampled: 10/09/03
Lab Sample ID: F19999-5	Date Received: 10/10/03
Matrix: SO - Soil	Percent Solids: 90.1
Method: SW846 8260B	
Project: NASCF-NASJAX Pipeline N0013	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022596.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

Run #	Initial Weight
Run #1	3.70 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.5	3.0	ug/kg	
108-88-3	Toluene	ND	7.5	3.0	ug/kg	
100-41-4	Ethylbenzene	ND	7.5	3.0	ug/kg	
1330-20-7	Xylene (total)	ND	22	6.7	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.5	3.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	100%		79-121%
460-00-4	4-Bromofluorobenzene	106%		77-133%
17060-07-0	1,2-Dichloroethane-D4	112%		72-133%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	CF-TH3-SB32	Date Sampled:	10/09/03
Lab Sample ID:	F19999-5	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	90.1
Method:	EPA 8310 SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	AA017980.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860

Run #1	Initial Weight	Final Volume
Run #2	30.2 g	5.0 ml

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	740	180	ug/kg	
208-96-8	Acenaphthylene	ND	740	180	ug/kg	
120-12-7	Anthracene	ND	370	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	370	92	ug/kg	
50-32-8	Benzo(a)pyrene	ND	74	18	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	74	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	74	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	74	18	ug/kg	
218-01-9	Chrysene	ND	370	92	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	74	18	ug/kg	
206-44-0	Fluoranthene	ND	370	92	ug/kg	
86-73-7	Fluorene	ND	370	180	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	74	18	ug/kg	
91-20-3	Naphthalene	ND	370	92	ug/kg	
90-12-0	1-Methylnaphthalene	ND	370	92	ug/kg	
91-57-6	2-Methylnaphthalene	ND	370	92	ug/kg	
85-01-8	Phenanthrene	ND	370	180	ug/kg	
129-00-0	Pyrene	ND	370	92	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	101%		38-139%		
92-94-4	p-Terphenyl	100%		46-149%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-TH3-SB32	Date Sampled: 10/09/03
Lab Sample ID: F19999-5	Date Received: 10/10/03
Matrix: SO - Soil	Percent Solids: 90.1
Method: FLORIDA-PRO SW846 3550B	
Project: NASCF-NASJAX Pipeline N0013	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32560.D	5	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	98.4	46	31	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	105%		57-127%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-TH3-SB33	Date Sampled: 10/09/03
Lab Sample ID: F19999-6	Date Received: 10/10/03
Matrix: SO - Soil	Percent Solids: 91.1
Method: SW846 8260B	
Project: NASCF-NASJAX Pipeline N0013	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022597.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

Run #	Initial Weight
Run #1	3.67 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.5	3.0	ug/kg	
108-88-3	Toluene	ND	7.5	3.0	ug/kg	
100-41-4	Ethylbenzene	ND	7.5	3.0	ug/kg	
1330-20-7	Xylene (total)	ND	22	6.7	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.5	3.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	98%		79-121%
460-00-4	4-Bromofluorobenzene	99%		77-133%
17060-07-0	1,2-Dichloroethane-D4	114%		72-133%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: CF-TH3-SB33		Date Sampled: 10/09/03	
Lab Sample ID: F19999-6		Date Received: 10/10/03	
Matrix: SO - Soil		Percent Solids: 91.1	
Method: EPA 8310 SW846 3550B			
Project: NASCF-NASJAX Pipeline N0013			

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	AA017981.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.5 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	720	180	ug/kg	
208-96-8	Acenaphthylene	ND	720	180	ug/kg	
120-12-7	Anthracene	ND	360	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	360	90	ug/kg	
50-32-8	Benzo(a)pyrene	ND	72	72	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	72	72	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	72	72	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	72	72	ug/kg	
218-01-9	Chrysene	ND	360	90	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	72	18	ug/kg	
206-44-0	Fluoranthene	125	360	90	ug/kg	J
86-73-7	Fluorene	ND	360	180	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	72	18	ug/kg	
91-20-3	Naphthalene	ND	360	90	ug/kg	
90-12-0	1-Methylnaphthalene	ND	360	90	ug/kg	
91-57-6	2-Methylnaphthalene	ND	360	90	ug/kg	
85-01-8	Phenanthrene	ND	360	180	ug/kg	
129-00-0	Pyrene	103	360	90	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	95%		38-139%
92-94-4	p-Terphenyl	95%		46-149%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-TH3-SB33	Date Sampled:	10/09/03
Lab Sample ID:	F19999-6	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	91.1
Method:	FLORIDA-PRO SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32563.D	5	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	341	45	31	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	96%		57-127%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-TH3-SB34	Date Sampled:	10/09/03
Lab Sample ID:	F19999-7	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	80.1
Method:	SW846 8260B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022598.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

Run #	Initial Weight
Run #1	4.06 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.7	3.1	ug/kg	
108-88-3	Toluene	ND	7.7	3.1	ug/kg	
100-41-4	Ethylbenzene	ND	7.7	3.1	ug/kg	
1330-20-7	Xylene (total)	10.2	23	6.9	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	7.7	3.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		70-130%
2037-26-5	Toluene-D8	96%		79-121%
460-00-4	4-Bromofluorobenzene	107%		77-133%
17060-07-0	1,2-Dichloroethane-D4	114%		72-133%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-TH3-SB34	Date Sampled:	10/09/03
Lab Sample ID:	F19999-7	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	80.1
Method:	EPA 8310 SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA017982.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	830	210	ug/kg	
208-96-8	Acenaphthylene	ND	830	210	ug/kg	
120-12-7	Anthracene	ND	420	210	ug/kg	
56-55-3	Benzo(a)anthracene	ND	420	100	ug/kg	
50-32-8	Benzo(a)pyrene	ND	83	21	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	83	21	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	83	21	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	83	21	ug/kg	
218-01-9	Chrysene	ND	420	100	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	83	21	ug/kg	
206-44-0	Fluoranthene	ND	420	100	ug/kg	
86-73-7	Fluorene	ND	420	210	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	83	21	ug/kg	
91-20-3	Naphthalene	ND	420	100	ug/kg	
90-12-0	1-Methylnaphthalene	ND	420	100	ug/kg	
91-57-6	2-Methylnaphthalene	ND	420	100	ug/kg	
85-01-8	Phenanthrene	ND	420	210	ug/kg	
129-00-0	Pyrene	ND	420	100	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	94%		38-139%
92-94-4	p-Terphenyl	93%		46-149%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-TH3-SB34	Date Sampled:	10/09/03
Lab Sample ID:	F19999-7	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	80.1
Method:	FLORIDA-PRO SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32565.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	25.4	10	7.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	98%		57-127%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	CF-TH3-SB35	Date Sampled:	10/09/03
Lab Sample ID:	F19999-8	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	91.4
Method:	SW846 8260B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022599.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2 ^a	H022613.D	1	10/13/03	NAF	n/a	n/a	VH827

	Initial Weight
Run #1	3.24 g
Run #2	3.10 g

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	8.4	3.4	ug/kg	
108-88-3	Toluene	3.5	8.4	3.4	ug/kg	J
100-41-4	Ethylbenzene	134	8.4	3.4	ug/kg	
1330-20-7	Xylene (total)	538	25	7.6	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	8.4	3.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%	102%	70-130%
2037-26-5	Toluene-D8	105%	103%	79-121%
460-00-4	4-Bromofluorobenzene	140% ^b	149%	77-133%
17060-07-0	1,2-Dichloroethane-D4	119%	103%	72-133%

(a) Confirmation run.

(b) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-TH3-SB35	Date Sampled:	10/09/03
Lab Sample ID:	F19999-8	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	91.4
Method:	EPA 8310 SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	AA018012.D	1	10/24/03	MRE	10/15/03	OP8787	GAA862
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	730	180	ug/kg	
208-96-8	Acenaphthylene	ND	730	180	ug/kg	
120-12-7	Anthracene	ND	360	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	360	91	ug/kg	
50-32-8	Benzo(a)pyrene	ND	73	18	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	73	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	73	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	73	18	ug/kg	
218-01-9	Chrysene	ND	360	91	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	73	18	ug/kg	
206-44-0	Fluoranthene	ND	360	91	ug/kg	
86-73-7	Fluorene	ND	360	180	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	73	18	ug/kg	
91-20-3	Naphthalene	129	360	91	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	360	91	ug/kg	
91-57-6	2-Methylnaphthalene	ND	360	91	ug/kg	
85-01-8	Phenanthrene	ND	360	180	ug/kg	
129-00-0	Pyrene	ND	360	91	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		38-139%
92-94-4	p-Terphenyl	73%		46-149%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-TH3-SB35	Date Sampled:	10/09/03
Lab Sample ID:	F19999-8	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	91.4
Method:	FLORIDA-PRO SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32635.D	20	10/21/03	SM	10/15/03	OP8785	GOP1090
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	5.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	1470	910	620	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	0% ^a		57-127%

(a) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-TH3-SO-DUP1 Lab Sample ID: F19999-9 Matrix: SO - Soil Method: SW846 8260B Project: NASCF-NASJAX Pipeline N0013	Date Sampled: 10/09/03 Date Received: 10/10/03 Percent Solids: 87.2
---	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022612.D	1	10/13/03	NAF	n/a	n/a	VH827
Run #2							

Run #	Initial Weight
Run #1	3.56 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	8.1	3.2	ug/kg	
108-88-3	Toluene	ND	8.1	3.2	ug/kg	
100-41-4	Ethylbenzene	ND	8.1	3.2	ug/kg	
1330-20-7	Xylene (total)	ND	24	7.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	8.1	3.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		70-130%
2037-26-5	Toluene-D8	100%		79-121%
460-00-4	4-Bromofluorobenzene	118%		77-133%
17060-07-0	1,2-Dichloroethane-D4	95%		72-133%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	CF-TH3-SO-DUP1	Date Sampled:	10/09/03
Lab Sample ID:	F19999-9	Date Received:	10/10/03
Matrix:	SO - Soil	Percent Solids:	87.2
Method:	EPA 8310 SW846 3550B		
Project:	NASCF-NASJAX Pipeline N0013		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA017984.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	760	190	ug/kg	
208-96-8	Acenaphthylene	ND	760	190	ug/kg	
120-12-7	Anthracene	ND	380	190	ug/kg	
56-55-3	Benzo(a)anthracene	ND	380	95	ug/kg	
50-32-8	Benzo(a)pyrene	ND	76	19	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	76	19	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	76	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	76	19	ug/kg	
218-01-9	Chrysene	ND	380	95	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	76	19	ug/kg	
206-44-0	Fluoranthene	ND	380	95	ug/kg	
86-73-7	Fluorene	ND	380	190	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	76	19	ug/kg	
91-20-3	Naphthalene	ND	380	95	ug/kg	
90-12-0	1-Methylnaphthalene	ND	380	95	ug/kg	
91-57-6	2-Methylnaphthalene	ND	380	95	ug/kg	
85-01-8	Phenanthrene	ND	380	190	ug/kg	
129-00-0	Pyrene	ND	380	95	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	92%		38-139%
92-94-4	p-Terphenyl	93%		46-149%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CF-TH3-SO-DUP1 Lab Sample ID: F19999-9 Matrix: SO - Soil Method: FLORIDA-PRO SW846 3550B Project: NASCF-NASJAX Pipeline N0013	Date Sampled: 10/09/03 Date Received: 10/10/03 Percent Solids: 87.2
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32636.D	2	10/21/03	SM	10/15/03	OP8785	GOP1090
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	45.9	19	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	96%		57-127%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER 2370

F19999 PAGE 1 OF 1

3.1

3

PROJECT NO: N0013		FACILITY: NASCF-NASDAQ		PROJECT MANAGER: P. COLLIER		PHONE NUMBER: 813 806 0202		LABORATORY NAME AND CONTACT: Accurest Jue Bell							
SAMPLERS (SIGNATURE): M. Dale		FIELD OPERATIONS LEADER: M. DARE		PHONE NUMBER: 904 626 6125		ADDRESS: 4405 Vine Land Rd.				CITY, STATE: Orlando, FL 32811					
STANDARD TAT <input checked="" type="checkbox"/> RUSH TAT <input type="checkbox"/>		CARRIER/WAYBILL NUMBER: Fedex 8427 18345426		CONTAINER TYPE: PLASTIC (P) or GLASS (G)		PRESERVATIVE USED: None		TYPE OF ANALYSIS: 2240B * 5310 F FL-DRO							
DATE YEAR: 2003		LOCATION ID		TOP DEPTH (FT)		BOTTOM DEPTH (FT)		MATRIX (GW, SO, SW, SD, QC, ETC.)		COLLECTION METHOD (GRAB (G) COMP (C))		No. OF CONTAINERS		COMMENTS	
TIME		SAMPLE ID		1		2		50		G		5		3 1 1	
10/9		CF-TH3-SB28		SB28		2		25		50		G		5 3 1 1	
10/9		CF-TH3-SB30		SB30		2		3		50		G		5 3 1 1	
10/9		CF-TH3-SB26		SB26		1		2		50		G		5 3 1 1	
10/9		CF-TH3-SB31		SB31		2		3		50		G		5 3 1 1	
10/9		CF-TH3-SB32		SB32		2		3		50		G		5 3 1 1	
10/9		CF-TH3-SB33		SB33		2		3		50		G		5 3 1 1	
10/9		CF-TH3-SB34		SB34		2		3		50		G		5 3 1 1	
10/9		CF-TH3-SB35		SB35		1		2		50		G		5 3 1 1	
10/9		CF-TH3-SO-DUP1		-		2		3		50		G		5 3 1 1	

Lead to 4°C
 for see work
 release N0013-
 NR380(SS)
 for list of
 analytical &
 methods.

1. RELINQUISHED BY: M. Dale	DATE: 10/9/03	TIME: 1600	1. RECEIVED BY: Fedex	DATE: 10/03	TIME: 0930
2. RELINQUISHED BY: Fedex	DATE: 10/03	TIME: 0930	2. RECEIVED BY: [Signature]	DATE: 10/03	TIME: 0930
3. RELINQUISHED BY:	DATE:	TIME:	3. RECEIVED BY:	DATE:	TIME:

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 2.40 402R FORM NO. T11115.011

APPENDIX I
FIXED-BASE LABORATORY REPORT FOR CF-AN14

CLIENT : Tetra Tech NUS
ADDRESS: 7018 A.C. Skinner Parkway
Suite 250
Jacksonville, FL 32256

REPORT # : JR1636
DATE SUBMITTED: February 9, 2000
DATE REPORTED : February 14, 2000

PAGE 1 OF 3

ATTENTION: Mr. John Kucera

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

PROJECT #: 0013DM0050115

02/09/00

#1 - CEF-AN14-1S

PROJECT MANAGER

Scott D. Martin

ENCO LABORATORIES

REPORT # : JR1636

DATE REPORTED: February 14, 2000

REFERENCE : 0013DM0050115

PAGE 2 OF 3

RESULTS OF ANALYSIS

EPA METHOD 8310 -
PAH BY HPLC

	<u>CEF-AN14-1S</u>	<u>LAB BLANK</u>	<u>Units</u>
Naphthalene	0.50 U	0.50 U	µg/L
Acenaphthylene	1.0 U	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	1.0 U	µg/L
Acenaphthene	0.50 U	0.50 U	µg/L
Fluorene	0.10 U	0.10 U	µg/L
Phenanthrene	1.0 U	1.0 U	µg/L
Anthracene	0.20 U	0.20 U	µg/L
Fluoranthene	0.10 U	0.10 U	µg/L
Pyrene	0.10 U	0.10 U	µg/L
Benzo(a)anthracene	0.10 U	0.10 U	µg/L
Chrysene	0.10 U	0.10 U	µg/L
Benzo(b)fluoranthene	0.10 U	0.10 U	µg/L
Benzo(k)fluoranthene	0.10 U	0.10 U	µg/L
Benzo(a)pyrene	0.10 U	0.10 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.10 U	0.10 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>% RECOV</u>	<u>LIMITS</u>
p-terphenyl	93	106	43-148
Date Extracted	02/11/00	02/11/00	
Date Analyzed	02/12/00	02/12/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR1636
DATE REPORTED: February 14, 2000
REFERENCE : 0013DM0050115

PAGE 3 OF 3

QUALITY CONTROL DATA

<u>Parameter</u>	<u>% RECOVERY MS/MSD/LCS</u>	<u>ACCEPT LIMITS</u>	<u>% RPD MS/MSD</u>	<u>ACCEPT LIMITS</u>
<u>EPA Method 8310</u>				
Naphthalene	81/ 85/ 75	59-111	5	12
Acenaphthene	80/ 81/ 70	58-128	1	13
Benzo(a)pyrene	104/110/103	78-134	6	15
Benzo(g,h,i)perylene	105/111/107	62-115	6	30

Environmental Conservation Laboratories Comprehensive QA Plan #910190

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

1.5 P.05



TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER JR 1636

PAGE 1 OF 1

PROJECT NO: 0013 DM0050115		SITE NAME: CTO 72		PROJECT MANAGER AND PHONE NUMBER Jon Kucava (904) 281-0400			LABORATORY NAME AND CONTACT: ENCO		
SAMPLERS (SIGNATURE) 		FIELD OPERATIONS LEADER AND PHONE NUMBER Same			ADDRESS 4810 Executive Park Court, Suite 211			CITY, STATE Jax, FL 32216	
STANDARD TAT <input checked="" type="checkbox"/> 8 RUSH TAT <input type="checkbox"/> <input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day		CONTAINER TYPE PLASTIC (P) or GLASS (G) 6			PRESERVATIVE USED			COMMENTS	
DATE YEAR TIME		MATRIX		GRAB (G) COMP (C)		No. OF CONTAINERS			
2/1/00		GW		G		1		TYPE OF ANALYSIS ① TO SVOCs	
		CEE-AM14-IS						X	
								Bailer # JAX-T-301	
								Delivered by T+NUS personnel to Lab.	

1. RELINQUISHED BY 	DATE 2-8-00	TIME 1430	1. RECEIVED BY 	DATE 2/9/00	TIME 1440
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

Feb-14-00 05:08P

APPENDIX J
FIXED-BASE LABORATORY REPORT FOR CF-VA02

CLIENT : Tetra Tech NUS
ADDRESS: 8640 Philips Highway
Suite 16
Jacksonville, FL 32256

REPORT # : JAX35640
DATE SUBMITTED: November 21, 2003
DATE REPORTED : December 1, 2003

PAGE 1 OF 7

ATTENTION: Mr. Paul Calligan

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: NOO13 CTO 72

NASCF, VA02

11/21/03

JAX35640-1 : CEF-VA02-1S @ 15:50

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 1999). This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

NOTE: The use of EPA Method 8270 for the analysis of polynuclear aromatic hydrocarbons was approved per client.

PROJECT MANAGER

Christopher K. Devore

ENCO LABORATORIES

REPORT # : JAX35640

DATE REPORTED: December 1, 2003

REFERENCE : NOO13 CTO 72

PROJECT NAME : NASCF, VA02

PAGE 2 OF 7

RESULTS OF ANALYSIS**EPA METHOD 8260 -
VOLATILE ORGANICS**

	<u>CEF-VA02-1S</u>	<u>LAB BLANK</u>	<u>Units</u>
Dichlorodifluoromethane	2.0 U	2.0 U	ug/L
Chloromethane	1.0 U	1.0 U	ug/L
Vinyl Chloride	1.0 U	1.0 U	ug/L
Bromomethane	2.0 U	2.0 U	ug/L
Chloroethane	2.0 U	2.0 U	ug/L
Trichlorofluoromethane	1.0 U	1.0 U	ug/L
1,1-Dichloroethene	1.0 U	1.0 U	ug/L
Acetone	50 U	50 U	ug/L
Carbon Disulfide	50 U	50 U	ug/L
Methylene Chloride	5.0 U	5.0 U	ug/L
t-1,2-Dichloroethene	1.0 U	1.0 U	ug/L
Methyl tert-butyl ether	1.0 U	1.0 U	ug/L
1,1-Dichloroethane	1.0 U	1.0 U	ug/L
2,2-Dichloropropane	2.0 U	2.0 U	ug/L
c-1,2-Dichloroethene	1.0 U	1.0 U	ug/L
2-Butanone	20 U	20 U	ug/L
Chloroform	1.0 U	1.0 U	ug/L
1,1,1-Trichloroethane	1.0 U	1.0 U	ug/L
Carbon tetrachloride	1.0 U	1.0 U	ug/L
1,1-Dichloropropene	1.0 U	1.0 U	ug/L
Benzene	1.0 U	1.0 U	ug/L
1,2-Dichloroethane	1.0 U	1.0 U	ug/L
Trichloroethene	1.0 U	1.0 U	ug/L
1,2-Dichloropropane	1.0 U	1.0 U	ug/L
Dibromomethane	1.0 U	1.0 U	ug/L
Bromodichloromethane	1.0 U	1.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : JAX35640
 DATE REPORTED: December 1, 2003
 REFERENCE : NO013 CTO 72
 PROJECT NAME : NASCF, VA02

PAGE 3 OF 7

RESULTS OF ANALYSIS

EPA METHOD 8260 (cont.) -
VOLATILE ORGANICS

	<u>CEF-VA02-1S</u>	<u>LAB BLANK</u>	<u>Units</u>
2-Chloroethyl vinyl ether	6.0 U	6.0 U	ug/L
c-1,3-Dichloropropene	1.0 U	1.0 U	ug/L
4-Methyl-2-pentanone	20 U	20 U	ug/L
Toluene	1.0 U	1.0 U	ug/L
t-1,3-Dichloropropene	1.0 U	1.0 U	ug/L
1,1,2-Trichloroethane	1.0 U	1.0 U	ug/L
Tetrachloroethene	3.0 U	3.0 U	ug/L
1,3-Dichloropropane	1.0 U	1.0 U	ug/L
2-Hexanone	20 U	20 U	ug/L
Bromochloromethane	1.0 U	1.0 U	ug/L
1,2-Dibromoethane	1.0 U	1.0 U	ug/L
Chlorobenzene	1.0 U	1.0 U	ug/L
1,1,1,2-Tetrachloroethane	1.0 U	1.0 U	ug/L
Ethylbenzene	1.0 U	1.0 U	ug/L
m-Xylene & p-Xylene	2.0 U	2.0 U	ug/L
o-Xylene	1.0 U	1.0 U	ug/L
Styrene	1.0 U	1.0 U	ug/L
Bromoform	1.0 U	1.0 U	ug/L
Isopropylbenzene	1.0 U	1.0 U	ug/L
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U	ug/L
Bromobenzene	1.0 U	1.0 U	ug/L
1,2,3-Trichlorobenzene	1.0 U	1.0 U	ug/L
n-Propylbenzene	1.0 U	1.0 U	ug/L
2-Chlorotoluene	1.0 U	1.0 U	ug/L
1,3,5-Trimethylbenzene	1.0 U	1.0 U	ug/L
4-Chlorotoluene	1.0 U	1.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : JAX35640
 DATE REPORTED: December 1, 2003
 REFERENCE : NOO13 CTO 72
 PROJECT NAME : NASCF, VA02

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RESULTS OF ANALYSIS

EPA METHOD 8260 (cont.) -
VOLATILE ORGANICS

	<u>CEF-VA02-1S</u>	<u>LAB BLANK</u>	<u>Units</u>
tert-Butylbenzene	1.0 U	1.0 U	ug/L
1,2,4-Trimethylbenzene	1.0 U	1.0 U	ug/L
s-Butylbenzene	1.0 U	1.0 U	ug/L
1,3-Dichlorobenzene	1.0 U	1.0 U	ug/L
p-Isopropyltoluene	1.0 U	1.0 U	ug/L
1,4-Dichlorobenzene	1.0 U	1.0 U	ug/L
n-Butylbenzene	1.0 U	1.0 U	ug/L
1,2-Dichlorobenzene	1.0 U	1.0 U	ug/L
1,2-Dibromo-3-chloropropane	1.0 U	1.0 U	ug/L
1,2,4-Trichlorobenzene	1.0 U	1.0 U	ug/L
Hexachlorobutadiene	1.0 U	1.0 U	ug/L
Naphthalene	2.0 U	2.0 U	ug/L
1,2,3-Trichloropropane	1.0 U	1.0 U	ug/L
Bromochloromethane	1.0 U	1.0 U	ug/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>% RECOV</u>	<u>LIMITS</u>
Dibromofluoromethane	100	94	67-139
D8-Toluene	102	98	80-115
Bromofluorobenzene	98	100	66-131
Date Analyzed	11/25/03 22:18	11/25/03 18:45	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
 REPORT # : JAX35640
 DATE REPORTED: December 1, 2003
 REFERENCE : NO013 CTO 72
 PROJECT NAME : NASCF, VA02

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RESULTS OF ANALYSIS

<u>EPA METHOD 8270 - PAH Compounds by SIM</u>	<u>CEF-VA02-1S</u>	<u>LAB BLANK</u>	<u>Units</u>
Naphthalene	0.20	0.10 U	ug/L
2-Methylnaphthalene	0.10 U	0.10 U	ug/L
1-Methylnaphthalene	0.10 U	0.10 U	ug/L
Acenaphthylene	0.10 U	0.10 U	ug/L
Acenaphthene	0.10 U	0.10 U	ug/L
Fluorene	0.10 U	0.10 U	ug/L
Phenanthrene	0.10 U	0.10 U	ug/L
Anthracene	0.10 U	0.10 U	ug/L
Fluoranthene	0.10 U	0.10 U	ug/L
Pyrene	0.10 U	0.10 U	ug/L
Chrysene	0.10 U	0.10 U	ug/L
Benzo(a)anthracene	0.10 U	0.10 U	ug/L
Benzo(b)fluoranthene	0.10 U	0.10 U	ug/L
Benzo(k)fluoranthene	0.10 U	0.10 U	ug/L
Benzo(a)pyrene	0.10 U	0.10 U	ug/L
Indeno(1,2,3-cd)pyrene	0.10 U	0.10 U	ug/L
Dibenzo(a,h)anthracene	0.10 U	0.10 U	ug/L
Benzo(g,h,i)perylene	0.10 U	0.10 U	ug/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>% RECOV</u>	<u>LIMITS</u>
p-Terphenyl	78	61	20-148
Date Prepared	11/25/03	11/25/03	
Date Analyzed	11/26/03 10:28	11/26/03 09:24	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : JAX35640
DATE REPORTED: December 1, 2003
REFERENCE : NOO13 CTO 72
PROJECT NAME : NASCF, VA02

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LABORATORY CERTIFICATIONS

Laboratory Certification: NELAC:E82277

All analyses reported with this project were analyzed by the facility indicated unless identified below.

ENCO LABORATORIES

REPORT # : JAX35640
 DATE REPORTED: December 1, 2003
 REFERENCE : NO013 CTO 72
 PROJECT NAME : NASCF, VA02

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QUALITY CONTROL DATA

<u>Parameter</u>	<u>% RECOVERY</u> <u>MS/MSD/LCS</u>	<u>ACCEPT</u> <u>LIMITS</u>	<u>% RPD</u> <u>MS/MSD</u>	<u>ACCEPT</u> <u>LIMITS</u>
<u>EPA Method 8260</u>				
1,1-Dichloroethene	117/112/116	40-155	4	30
Benzene	111/111/114	70-131	<1	23
Trichloroethene	98/ 95/ 98	68-128	3	10
Toluene	106/ 99/109	84-116	7	12
Chlorobenzene	105/104/106	88-123	<1	11
<u>EPA Method 8270</u>				
Naphthalene	66/ 64/ 66	30-112	3	28
Anthracene	64/ 60/ 68	28-113	6	32
Benzo(a)pyrene	75/ 72/ 80	39-148	4	38
Benzo(g,h,i)perylene	100/ 93/120	20-130	7	43

< = Less Than
 M = Matrix Spike
 M.S. = Matrix Spike Duplicate
 LCS = Laboratory Control Standard
 RPD = Relative Percent Difference



TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER VAOZ-1B

PAGE 1 OF 1

PROJECT NO: NOV 13 CTD 72		FACILITY: NASCF, VAOZ		PROJECT MANAGER PAUL CALIGAN		PHONE NUMBER 813 606 0202		LABORATORY NAME AND CONTACT: ENCO							
SAMPLERS (SIGNATURE) Merritt Dale				FIELD OPERATIONS LEADER MERR DALE		PHONE NUMBER 904 636 6165		ADDRESS 4810 Executive Park Ct. Ste 211							
				CARRIER/WAYBILL NUMBER Courier				CITY, STATE JACKSONVILLE, FL 32216							
STANDARD TAT <input checked="" type="checkbox"/> RUSH TAT <input type="checkbox"/> <input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day				TOP DEPTH (FT)		BOTTOM DEPTH (FT)		MATRIX (GW, SO, SW, SD, OC, ETC.)		COLLECTION METHOD GRAP (G) COMP (G)		No. OF CONTAINERS		CONTAINER TYPE PLASTIC (P) or GLASS (G)	
DATE YEAR		TIME												SAMPLE ID	
2003												VOCs, SVOCs, PAHs, PCBs, HCB, MNO		Cool to 4°C	
11/21		1550		CEF-VAOZ-15						GW G 5					
1. RELINQUISHED BY Merritt H. Dale				DATE 11/21/03		TIME 1907		1. RECEIVED BY [Signature]				DATE 11-21-03		TIME 19:07	
2. RELINQUISHED BY				DATE		TIME		2. RECEIVED BY				DATE		TIME	
3. RELINQUISHED BY				DATE		TIME		3. RECEIVED BY				DATE		TIME	
COMMENTS Cystad, instad - OAD.															

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R FORM NO. TINUS-777

TINUS JACKSONVILLE Fax: 9042810070 Dec 29 2003 15:40 P.07